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BOVINE TUBERCULOSIS IN NEW YORK STATE

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A report prepared for the Joint Committee of the Committee on the Prevention of Tuberculosis of the N. Y. Charity Organization Society and the Milk Committee of the N. Y. Association for Improving the Condition of the Poor.

CONTENTS

THE DISTRIBUTION AND EXTENT OF BOVINE TUBERCULOSIS..	5
THE CONDITION IN NEW YORK STATE	7
THE ECONOMIC AND SANITARY PROBLEMS IN NEW YORK STATE	14
THE ATTITUDE OF THE FARMERS TOWARD THE ERADICATION OF BOVINE TUBERCULOSIS	22
THE BANG METHOD FOR THE CONTROL OF BOVINE TUBERCULOSIS AS APPLIED IN EUROPE, CANADA AND THE UNITED STATES	23
THE NEW YORK LAW AND ITS EFFECT	26
THE MASSACHUSETTS LAW AND ITS EFFECT	29
THE WISCONSIN LAW AND ITS EFFECT	31
THE PENNSYLVANIA LAW AND ITS EFFECT	34
LEGISLATIVE RECOMMENDATIONS	38

APPENDIX

NEW YORK LAW	49
MASSACHUSETTS LAW	56
WISCONSIN LAW	64
PENNSYLVANIA LAW	73
REFERENCES	89

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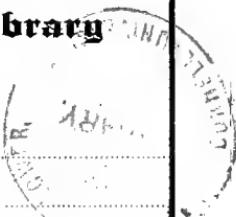
The Status of Bovine
Tuberculosis in New
York State with sug-
gestions for improv-
ing the method for its
control; together with
a copy of the laws and
a summary of the
methods for its control
in certain other states.



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Ithaca, N. Y., Oct. 7, 1907.

DR. A. JACOBI,
Chairman.

Dear Sir:—

As requested by your Committee, I have the honor to submit the following report on the status of bovine tuberculosis in this State and the law on this disease in certain other states, together with a few suggestions relative to needed provisions of the New York law. The large number of specific topics upon which information was desired and the brief time available for the work have necessarily precluded an exhaustive discussion. I have, however, endeavored to collect the essential facts which may be taken as an index to the existing condition relative to cattle tuberculosis in this State.

In submitting this communication I wish to acknowledge my indebtedness to Dr. Austin Peters of Massachusetts, Drs. David Roberts and L. H. Russell of Wisconsin, Dr. Leonard Pearson of Pennsylvania and Dr. W. H. Kelly of New York for valuable information relative to the law and its operation in their respective states. I desire also to thank the many veterinarians of this State who have made it possible for me to collect the desired data on the results of tuberculin tests in a large number of herds.

In conclusion, I have added a list of references to the more valuable literature on the nature and control of bovine tuberculosis.

Respectfully submitted,

V. A. MOORE.

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Bovine Tuberculosis in New York State

THE DISTRIBUTION AND EXTENT OF BOVINE TUBERCULOSIS.

Before inquiring into the existing conditions relative to bovine tuberculosis in the State of New York, it is well to consider briefly its more general distribution. In the contemplation of better and more efficient methods for its control in a given state or territory its general status in the surrounding country should be understood. As it is caused by infection with a specific bacterium, its means of dissemination must also be reckoned with. Historically, bovine tuberculosis seems to have developed in Eastern Africa and Western Asia. From these centers it spread during the centuries to nearly every cattle raising country of the world. At first its dissemination was slow, but during the last fifty years it has spread at a very rapid rate, because of the great increase in cattle traffic. It is stated that in many countries, and in large areas within others, bovine tuberculosis did not exist until it was introduced within very recent years by the importation of tuberculous animals. In the United States its virus has recently been carried in diseased animals into a large number of localities that previously were uninfected. This applies to both dairy districts and range country. In many local dairy districts it has been brought with the separated milk for feeding calves from creameries where milk from tuberculous cattle was received. The amount of tuberculosis found in our food animals by the Federal veterinary inspectors is *enormous*. During the fiscal year 1905 there were inspected 6,134,388 carcasses of beef animals of which 10,956 were condemned for this disease. The *increase* of tuberculosis in hogs is *shown* by the fact that in 1900, of 23,336,884 hogs which were, inspected 5,440 were affected sufficiently to cause a condemnation of some one or more parts of the carcass. In 1905, of 25,357,425 hogs inspected post-mortem

64,919 carcasses and 142,105 parts of carcasses were condemned for tuberculosis.

It should be remembered that these condemnations were made on the inspection of hardly a third of the animals killed annually in the United States for human food. It is also important to note that these inspections were made on animals killed in our large packing houses, and which were raised under the most favorable conditions existing in our country.

The extent and rapid increase of bovine tuberculosis in various other countries has during recent years caused alarm both because of its effects in reducing the general food supply and its danger to human health. The appended statistics taken from Bulletin No. 53 of the Bureau of Animal Industry are significant.

"The slaughterhouse statistics of Prussia show 14.6 per cent. of the cattle and 2.14 per cent. of the hogs to be tuberculous. In Saxony the percentage is 29.13 for cattle and 3.10 for hogs. In the city of Leipzig the figures are 36.4 for cattle and 2.17 for hogs (Siedamgrotzky). Of 20,850 animals in Belgium tested with tuberculin in 1896, 48.88 per cent. reacted (Stubble). Of 25,439 tested in Denmark from 1893 to 1895, 49.3 per cent. reacted; and of 67,263 tested from 1896 to 1898, 32.8 per cent. reacted (Bang). An examination of 20,930 cattle in Great Britain, either slaughtered and examined post-mortem or tested with tuberculin, showed 5,441 or 26 per cent. affected with tuberculosis. McFadyean estimates that 30 per cent. of the cows in Great Britain are tuberculous."

Russell, of the Wisconsin Agricultural College, states that tuberculosis is the most devastating animal plague with which Wisconsin farmers have to contend. Of the 853 animals tested with tuberculin during the years 1903 and 1904, 428 were found to be tuberculous. Forty-nine of the seventy herds were infected. Pearson found about 13 per cent. of the herds of Pennsylvania to be tuberculous. In many other states this same general condition exists.

According to the reports of the Chief of the Cattle Bureau of Massachusetts, there were condemned, killed and paid for by

the State 1423 head of tuberculous cattle in 1900; 1341 head in 1901; 1001 head in 1902; 1173 head in 1903; 1658 head in 1904; 1,625 head in 1905; and 1,202 in 1906.

The report of the Minnesota Live Stock Sanitary Board for the year ending July 31, 1906 states that during the year a total of 12,958 state animals were tested with tuberculin of which 1,413 reacted and were killed. They also tested 749 imported cattle of which 25 were killed and 2 returned. This gives a total of 10 per cent. of reacting animals in the herds tested. This report states that swine tuberculosis is on the increase and that it is now safe to assume that it causes an annual loss of \$70,000 to the State through condemnation by the Federal meat inspection.

Although the statistics given are fragmentary, they are sufficient to show that bovine tuberculosis is widespread, and that in protecting our herds great care must be taken to prevent continuous or reinfection by cattle brought into the State for breeding or dairy purposes. Under conditions relative to tuberculosis existing in the country generally it is impossible to eradicate this disease from the herds of the Empire State if the indiscriminate importation of cattle is continued.

THE CONDITION IN NEW YORK STATE.

In New York there seem to be no reliable data sufficient to estimate the extent of bovine tuberculosis. The secretary of the former Tuberculosis Commission of the State Board of Health estimated that about 4 per cent. of the cattle of the State were affected. Of 1,459 animals examined and tested with tuberculin by the State Department of Agriculture up to 1906, Dr. Kelly tells me that 641 or 43.9 per cent. reacted. The herds, however, were all under suspicion and consequently this high percentage of reacting animals could not be considered as representing the condition of the herds generally.

In order to obtain further data on the existing condition of the herds of this State, in July I addressed a letter to a large

number of practicing veterinarians* asking for definite information on this subject. In response to this I have received a large number of positive statements from practitioners relative to the herds which they have tested in their practice within a period of three years or less. The greater number were made during the last year. In addition to this, the Chief Veterinarian of the Department of Agriculture has furnished me with a list of the official tests that have been made during the last three years, 1904-1906. These two groups of statistics are interesting, because the official tests have been made under the operation of the law in herds under suspicion, while many of the private ones were made when the disease was not suspected by the owner but because it was required by the purchaser of the animals or of their milk and its products. It is true nevertheless, that many of the private tests were made because of the suspicion of the owner or at the suggestion of the veterinarian.

From the total of the individual reports I have arranged the facts in the appended table (Table I) by counties, which gives in addition to the number of animals tested some idea of the distribution of the herds from which the data were obtained. In Table II will be found the facts similarly arranged of the official tests of the State, kindly furnished me by the Chief Veterinarian.

A study of this table will show that tuberculosis is widely distributed in New York, and that there is considerable activity regarding it. The results of these private tests are most interesting. Of the 8,640 animals tested, 3,111 or 36 per cent. reacted. Of the 364 herds tested 265 or 72.8 per cent. were infected, leaving but 27.2 per cent. of the herds examined free from this disease.

*I desire to express my appreciation and thanks to these veterinarians for their prompt replies and the valuable information they furnished. It should be stated that many of the veterinary practitioners of this State are doing pioneer work of great value in trying to teach the farmers the necessity, for good results, of eliminating tuberculosis from their herds.

TABLE I. A table giving the results by counties of tuberculin tests made by veterinary practitioners, 1905-1907.

COUNTY	Number of herds tested	Total number of animals	Number of animals that reacted	Number of tuberculous herds	No. of herds free from tuberculosis
Alleghany.....	11	169	2	1	10
Broome.....	1	34	10	1	0
Cattaraugus.....	14	227	21	9	5
Cayuga.....	4	44	13	3	1
Chautauqua.....	11	429	46	10	1
Chemung.....	17	241	82	14	3
Chenango.....	15	174	44	11	4
Cortland.....	10	192	54	8	2
Delaware.....	26	1030	553	23	3
Dutchess.....	21	629	287	18	3
Erie.....	17	817	340	13	4
Fulton.....	3	74	8	3	0
Genesee.....	1	12	3	1	0
Herkimer	4	90	65	4	0
Jefferson.....	4	63	30	3	1
Lewis.....	2	45	18	2	0
Livingston.....	5	155	20	3	2
Madison.....	6	62	21	4	2
Monroe.....	6	80	11	4	2
Nassau.....	1	15	5	1	0
Niagara.....	2	16	4	2	0
Oneida.....	5	73	36	5	0
Onondaga.....	1	18	14	1	0
Ontario.....	3	134	80	2	1
Orange.....	13	392	198	12	1
Orleans.....	3	9	0	0	3
Oswego.....	8	169	56	6	2
Putnam.....	4	46	29	3	1
Rockland.....	16	231	50	11	5
St. Lawrence.....	13	266	124	13	0
Schoharie	4	68	26	3	1
Seneca.....	5	228	64	1	4
Steuben.....	16	140	16	6	10
Tioga.....	17	334	35	15	2
Tompkins.....	24	306	13	6	18
Washington.....	1	84	5	1	0
Wayne.....	6	52	16	5	1
Westchester.....	28	1242	673	24	4
Wyoming.....	16	250	39	13	3
 Totals.....	 364	 8,640	 3,111	 265	 99

TABLE II. A table giving the results by counties of tuberculin tests made by the Commissioner of Agriculture, 1903-1906

COUNTY	Number of herds tested	Total number of animals	Number of animals that treated	Number of tuberculous herds	No. of herds free from tuberculosis
Albany.....	1	5	0	0	1
Alleghany.....	7	68	2	2	5
Broome.....	5	44	6	1	4
Cattaraugus.....	9	123	10	4	5
Cayuga.....	2	20	7	1	1
Chautauqua.....	14	59	5	5	9
Chemung.....	9	72	6	5	4
Chenango.....	9	110	25	5	4
Columbia.....	15	140	44	5	10
Cortland.....	7	75	25	3	4
Delaware.....	6	186	9	2	4
Dutchess.....	2	38	24	1	1
Erie.....	5	341	8	2	3
Essex.....	5	48	5	2	3
Franklin.....	12	68	6	2	10
Fulton.....	1	3	0	0	1
Genesee.....	2	16	3	1	0
Greene.....	3	54	7	3	0
Herkimer.....	7	37	18	4	3
Jefferson.....	7	119	36	3	4
Lewis.....	1	14	1	1	0
Livingston.....	1	5	2	1	0
Madison.....	3	47	26	1	2
Monroe.....	2	12	0	0	1
Montgomery.....	1	2	0	0	1
New York.....	2	81	3	1	1
Niagara.....	2	4	0	0	2
Onondaga.....	4	43	18	2	2
Ontario.....	1	1	0	0	1
Orange.....	8	65	25	5	3
Orleans.....	1	12	0	0	1
Oswego.....	7	96	39	3	4
Otsego.....	12	163	57	8	4
Rensselaer.....	10	103	17	5	5
Rockland.....	2	9	0	0	2
St. Lawrence.....	31	378	161	21	10
Saratoga.....	2	23	0	0	2
Schenectady.....	2	6	2	2	0
Schoharie.....	1	1	0	0	1
Seneca.....	3	15	0	0	3
Steuben.....	9	52	7	2	7
Suffolk.....	2	4	2	2	0
Sullivan.....	2	4	3	2	0
Tioga.....	4	34	7	3	1
Tompkins.....	5	52	1	1	4
Ulster.....	1	45	27	1	0
Warren.....	1	4	0	0	1
Washington.....	3	49	1	1	2
Wayne.....	3	22	1	1	2
Westchester.....	8	116	27	7	1
Totals.....	262	3,088	673	121	141

A study of the facts set forth in Table II is very instructive in that it shows the official tests made on supposedly diseased herds revealed a much smaller percentage of reacting animals and a much larger proportion of uninfected herds than was found by the private tests. Of the 3,088 animals tested, 673 or 21.79 per cent. reacted; and of the 262 herds tested but 121 or 46.18 per cent. were diseased, leaving 53.82 per cent. uninfected.

If we take the totals of the private and official tests we have positive information concerning the condition existing at the time in 626 herds, including 11,728 animals. Of the 626 herds, 386 or 61.7 per cent. contained tuberculous animals. Of the 11,728 cattle tested, 3,784 or 32.26 per cent. reacted. Of the 11,728 animals, 2,475 were in 240 herds that were free from the disease. The total number of cattle in the 386 herds containing reacting animals was 9,253 of which 3,784 reacted. This gives us 40.89 per cent. of animals infected in the diseased herds. The average size of the diseased herds is 23.9 animals and the average size of the uninfected herds is 10.3 animals.

The statistics from private sources are necessarily incomplete. In the short time at my disposal, I have only attempted to procure data from veterinarians to whom the larger quantities of tuberculin have been sent by this College. Some of these have as yet not replied and others have stated that for various reasons the returns were incomplete. The data were derived from not more than fifty veterinarians. While it is possible that they were the ones who are doing more testing than the others, it is known that several hundred veterinarians, and probably some herdsmen, are testing cattle more or less regularly. Last year the New York State Veterinary College sent out over 12,000 doses of tuberculin to private practitioners. This shows that interest in the subject is being aroused.

What is being done with the reacting animals is not known but casual inspection of a few slaughter houses during the killing hours shows that not a small number of them find their way to the shambles. A few individuals are resorting to the Bang method to restore their herds. In some localities the local

regulations of the Board of Health forbid the sale for food of tuberculous animals regardless of the extent of the lesions. There is a painful lack of uniformity or system observed by the health authorities in the State for the purpose of controlling this disease.

A few statements from veterinarians in different parts of the State may be of value in giving expression to the actual opinions entertained either by the cattle owners or their veterinary advisers.

One of them writes, "After the test of Mr.'s herd the subject of tuberculosis dropped, because the farmers, most of them at least, did not understand the attitude of the veterinarian who made the test. They kept the matter to themselves; animals showing symptoms of the disease were disposed of by them in other ways. They (the farmers) are recovering now and are beginning to go in the opposite direction. I have a great many calls to make tests from farmers who have a cow or cows that they suspect are wrong." The test referred to was made in a proper manner by a competent veterinarian, who at the time, was in the employ of the State.

Another, writing from a prominent dairy district states, "I think that we have plenty of tuberculosis about us but the average farmer thinks that if his herd looks well it is free from the disease and when the animals do not look well they are sold to a local butcher who disposes of them.....I think the government could do much more than is being done to educate the farmers on tuberculosis."

Another, after discussing the question of bringing into the State cattle that are tuberculous, writes, "I have fought this hard, and now very few animals of this class are brought here and they are of a better class of cattle. You can see the condition here is much better than it was five years ago."

One veterinarian who is doing a small amount of testing writes: "I see a great many cows here that plainly show physical signs of tuberculosis. I have held autopsies on two that have

died with advanced tuberculosis. Several others that died from other causes contained a few lesions of tuberculosis."

Another writes: "I have held post-mortem examinations on several cows that have died and have found a good many tuberculous animals. There is no doubt that there is a large percentage of tuberculous animals in this section of the State."

The following came from a practitioner in a large dairy district: "I have every reason to know that this disease is rapidly increasing in this locality."

The following is taken from the letter of a very competent veterinarian: "I find that the farmers are influenced more than any other way, by the farm papers they read. Those who read have very little use for the test, while a well written article showing the need of the tuberculin test has the opposite effect. Farmers in this section are greatly opposed to turning their dairies over to the State for the simple reason that the State does not pay enough for their diseased animals."

A means of eliminating diseased animals is shown by the appended: "This spring the owner of a large herd sold five cows to a local butcher and three of them were condemned for tuberculosis. Another weeded out his herd by disposing of seventeen."

A different method of elimination is outlined by another veterinarian. "People in this section are beginning to see that something must be done as regards tuberculosis. Most of the farmers send from one to half a dozen of their so-called 'Band boxes' to New York City each year and that is what becomes of the tuberculous cattle in this section. We have dealers who ship a car-load every week or so."

The above quotations from letters written by earnest, reliable practitioners are cited to better express the feeling in different localities concerning bovine tuberculosis. From many other letters the opinion is expressed that the dairymen are anxious to improve the general health of their cattle and to eliminate tuberculosis if it is present. The attitude of the cattle owners will be discussed in a later paragraph.

It is unfortunate that more knowledge is not available

concerning the extent of tuberculosis in the State. The data already given show that it is widespread. Although the figures point to a very high percentage of infection in the herds examined the fact must not be overlooked that the total number of animals tested and herein considered represents but a little more than one half of one per cent. of the cattle in the State. It is clear that general deductions should not be made from the condition found in such a relatively small number of animals, but the inference is justifiable that the dairy herds are quite generally more or less seriously infected.

The bringing of large numbers of cattle into the State without a tuberculin test and the practice of dealers engaged in shipping cattle through the State into other states requiring tuberculous free animals as determined by the tuberculin test, of unloading and testing their animals within the borders of New York where they leave all the reacting ones, have greatly augmented the sources of infection for our home herds.

The selling of cattle either privately or at public auctions from tuberculous herds has given much momentum to the dissemination of cattle tuberculosis.

THE ECONOMIC AND SANITARY PROBLEMS OF BOVINE TUBERCULOSIS.

It was thought by the earlier workers on tuberculosis that the cause of the disease in all mammals was the same. Koch and others made such statements based on the apparent identity, by the methods then employed, of the tubercle bacteria from different species of animals and man. The discovery and application of tuberculin as a diagnostic agent resulted in bringing the fact to light that many dairy cattle were suffering from this disease. This gave bovine tuberculosis much sanitary significance. The intensity of feeling on this subject brought about very radical legislation relative to the destruction of infected cattle. When, however, the execution of such laws began, it was found that the amount of bovine tuberculosis was much greater than had

been expected, which not only added to the importance of its sanitary significance but brought it before the farmer as an immediate danger affecting the life and value of his herd. These complicated the existing method of dealing with this affection purely as a public health measure. The problem therefore, which confronts us relative to the elimination of bovine tuberculosis has a two-fold bearing; one pertaining to its economic and the other to its sanitary significance.

The economic significance. When tuberculin was first applied in this and other States it was supposed that tuberculosis was not common in dairy cattle. The theory was a rational one, that by testing the herds the few diseased animals could be detected, paid for by the State, destroyed, and the disease thereby eradicated. It soon developed that large numbers of apparently healthy cattle reacted, and upon post-mortem many of them were found to contain very small areas of disease. In many cases, the examiner had to search diligently for considerable time to find them. The butchers who were employed to slaughter the cattle would miss them entirely. This destruction of apparently sound animals was repulsive to the owners and when the extent of the disease was appreciated and large sums of money asked for to continue the work the legislatures refused to make the necessary appropriations for paying for the cattle.

While the crusade against tuberculosis was waged from the purely sanitary side, little thought was given the disease as a destroyer of animals. It was considered a menace to humanity, and not a disease of cattle. However, a careful survey of the agricultural side showed that the cattle owners were suffering, often severely from its presence. Many farmers who as yet were not losing animals and who believed their cattle were sound found upon the application of the tuberculin test that their herds were extensively infected. This condition which did exist is still present. Many herds were suffering heavy annual losses from it while others are becoming infected.

In considering the economic side, I have summarized the various ways by which tuberculosis in cattle causes financial loss to the owner of such herds:

1. It destroys by death a certain number of animals after the disease has become established in a herd.
2. It causes a waste of food by feeding it to animals that are diseased and can not give an adequate return.
3. It causes heavy losses by infecting other animals, such as swine, calves and adult cattle through the milk and by contact. The enormous annual loss from tuberculosis in swine illustrates this point.
4. It reduces the production and market value of the animals. As soon as there is physical evidence of its existence the animals have practically no market value.
5. It destroys the good reputation of a herd, which renders it difficult to sell the animals and often their products.

To understand the economic side of bovine tuberculosis, one must take fully into account its development and means of spreading. Its high degree of infectiousness, its slow development and often long duration, do not harmonize with the popular conception of an infectious malady. It is the natural tendencies of the disease which have long been operating but unsuspected by the cattle owners that have resulted in the existing unfortunate condition. Many farmers with good intention of improving their herds have bought choice grades or breeds from supposedly healthy but actually tuberculous herds and thus brought infection into their healthy dairies. Many herds have become infected by feeding the calves with separated milk from creameries where the milk from tuberculous cows was received. Thus tuberculosis, having been once introduced into a community, has been able to spread more or less rapidly until it has become a veritable plague to many dairymen.

The tuberculin test has also failed to give the results desired in many instances because its diagnostic powers have not been rightly interpreted. If there is a reaction it is assured that the

animal is suffering from active tuberculosis, but if there is no reaction the correct interpretation is more difficult. In this case there are three conditions which must be taken into account, namely:

(1) If the animal is extensively diseased it may not react. In this case the physical condition would show that the animal was at least not healthy.

(2) If the test was made during the period of incubation there would be no reaction, although the disease may soon develop. To overcome this danger a subsequent test should be made in from three to six months.

(3) It is known that cows which have reacted may, because of the arrest of the disease, fail to react subsequently but later the disease may start up again, when the animal would react. We have records of many cases of this kind in herds where the Bang method is being applied. Great care must be exercised, therefore, in the interpretation of negative results, especially in tests made in herds where tuberculosis exists, and where it is possible that the animals failing to react have been infected.

If the animal comes from a herd in which the disease is prevalent or exists at all, the fact should be kept in mind that possibly infection has taken place but the animal is still in the period of incubation when a reaction would not occur. It is also necessary to consider the possibility that the animal is recovering from a slight attack which may not be complete and which at a later time may develop into a serious form. These elements in the nature of the disease, which are clearly recognized by the student of tuberculosis, are trying, difficult and discouraging for those who wish to protect their herds and who must, to sustain their business, buy and sell cows.

When the wide distribution and almost alarming extent of bovine tuberculosis are considered its great economic importance is clear. This renders the question of its eradication a difficult one. It is not a simple matter for a dairyman to eliminate his tuberculous but apparently well animals and immediately replace them with sound ones. The financial loss in itself is often pro-

hibitive. Further, when from 5 to 70 per cent. of the cows in a dairy react and the same condition holds with the neighboring ones, the purchase of sound animals is not always possible. Many dairymen who are struggling with this problem find that a variable percentage of the cattle bought on the tuberculin test react and are condemned six months or a year later. The parasitism of tuberculosis is so strong and its means of gaining access to its hosts are so numerous that when a systematic campaign against it is begun, it must not overlook the details relative to the disease itself. What is true for the individual holds with State control. The vast amount of property involved and the unfortunate condition of many dairymen who have done the best they could to preserve the health of their cows must not be overlooked. The consumers of milk in the cities, who are demanding at low prices an equal or larger quantity of fresh milk in winter than in summer are imposing unnatural conditions upon the dairy herd. To meet this demand the farmer is obliged to abandon the natural process of replenishing his herd, and take his chances in selling his dry cows and buying fresh ones. There are but few dairymen in the milk shipping districts who feel able to keep a herd of sufficient size to maintain both the milking and the dry cows. This active exchange of dairy cows which the demands of the cities have necessitated has resulted in spreading tuberculosis to many previously uninfected herds. If the tens of thousands of dairies which are necessary to supply the demand for fresh milk are to be free from tuberculosis there must be many healthy herds from which they can be replenished. Now that the facts are beginning to be understood relative to the extent of bovine tuberculosis, it is necessary that the conditions be changed; but the reform should, and to succeed it must, take cognizance of the economic as well as the sanitary side of the question. The nature of the disease and the conditions that have made its wide dissemination possible must likewise not be overlooked.

Sanitary significance. From the point of view of the con-

sumer of milk the sanitary aspect of bovine tuberculosis is the only one which appears to be worthy of consideration in dealing with this disease. It was the only one taken into account in the earlier efforts to eradicate tuberculosis from our dairy herds. As the investigation of the disease continued important findings were made known, which have modified very much the earlier views. The results of Smith's researches, confirmed by Koch and many others, that the tubercle bacteria from cattle and those from man differ and that they belong to different varieties, are of great importance in this connection. The differences which Smith pointed out between the bovine and human varieties of tubercle bacteria are:

1. The bovine forms are shorter and thicker than those of the human variety.
2. They exhibit certain well marked differences in the character of their growth upon dog serum.
3. The virulence for animals of the bovine variety is much greater than that of the human variety.

The results of the various examinations and experiments relative to tubercle bacteria in milk show that about two per cent. of tuberculous cows have the disease localized in the udder. These animals are constantly giving off large numbers of tubercle bacteria in their milk, and the consumption of such milk would be exposing the consumer to great danger of infection. Of all tuberculous cattle in which the udder is not diseased, about fifteen per cent. are found to give off tubercle bacteria in their milk at some time during the course of the disease. In these cases the milk is not constantly infected but it is impossible to know when tubercle bacteria may be present. The milk at any given time from this large percentage of tuberculous cows may or may not contain the dreaded organisms.

From the results of experiments conducted in the laboratory of the Bureau of Animal Industry, as well as from the majority of similar investigations, Mohler drew the following conclusions regarding the infectiousness of milk from tuberculous cows:

1. The tubercle bacillus may be demonstrated in milk from tuberculous cows when the udders show no perceptible evidence of disease, either macroscopically or microscopically.
2. The bacillus of tuberculosis may be excreted from such an udder in sufficient numbers to produce infection in experimental animals both by ingestion and inoculation.
3. In cows suffering from tuberculosis the udder may, therefore, become affected at any moment.
4. The presence of the tubercle bacillus in the milk of tuberculous cows is not constant, but varies from day to day.
5. Cows secreting virulent milk may be affected with tuberculosis to a degree that can be detected only by the tuberculin test.
6. The physical examination or general appearance of the animal can not foretell the infectiveness of the milk.
7. The milk of all cows which have reacted to the tuberculin test should be considered as suspicious, and should be subjected to sterilization before using.
8. Still better, tuberculous cows should not be used for general dairy purposes.

To understand the reasons why tubercle bacteria may at certain times be present in the milk of a tuberculous cow and at other times absent, requires a familiarity with the means by which tuberculosis spreads within the body of the infected animal.

The cases of transmission of tuberculosis from cattle to man so far established warrant the exercise of every reasonable and possible precaution against human infection from the use of products from tuberculous cattle. Although the milk from a large majority of reacting cows may be innocuous for the greater part of the time, its occasional virulence warrants the recognition of the potential sanitary significance of the milk from all tuberculous cows. Surely no one wishes to expose human beings to the possibility of infection by using the raw milk of such animals.

In the disposition of tuberculous cattle, practice has estab-

lished the feasibility and safety of using the flesh for food when the disease is localized. The Federal meat inspection regulations permit the carcasses of tuberculous animals to pass and to be sold as sound when the lesions are slight, calcified, or encapsulated, and restricted to certain organs in their distribution as follows:

“(1) The cervical lymphatic glands and two groups of visceral lymphatic—the cervical, bronchial, and mediastinal glands, or the cervical, hepatic, and mesenteric glands.

“(2) The cervical lymphatic glands and one group of visceral lymphatic glands and one organ in a single body cavity, such as the cervical and bronchial glands and the lungs, or the cervical and hepatic glands and the liver.

“(3) Two groups of visceral lymphatic glands and one organ in a single body cavity, such as the bronchial and mediastinal glands and the lungs, or the hepatic and mesenteric glands and the liver.

“(4) The cervical lymphatic glands and one group of visceral lymphatic glands in each body cavity, such as the cervical, bronchial, and the hepatic glands.

“(5) Two groups of visceral lymphatic glands in the thoracic cavity and one group in the abdominal cavity, or one group of visceral lymphatic glands in the thoracic cavity and two groups in the abdominal cavity, such as the bronchial, mediastinal, and hepatic glands, or the bronchial, hepatic, and mesenteric glands.”

In Germany the flesh of cattle suffering with localized tuberculosis is passed as sound as in this country. In addition to this, the carcasses of certain cases of generalized tuberculosis are sterilized by steam and sold for food at a small price under what is known as the “Freibank” system. The only danger to the health of our people that is in evidence from the use of the flesh of tuberculous cattle, is the lack of inspection in local slaughter houses where perhaps the butcher allows the carcasses of advanced cases of generalized tuberculosis to go into the market.

THE ATTITUDE OF THE FARMERS TOWARD THE ERADICATION OF BOVINE TUBERCULOSIS.

In order to eradicate bovine tuberculosis or to reduce it to its minimum, the co-operation of the cattle owners is essential. A somewhat careful inquiry among them reveals, as would be expected, the fact that they entertain many opinions. There are those who do not want their herds tested, as they prefer to continue in ignorance relative to the infection of their cattle. This, however, is not the case with the enterprising, progressive farmer. These leaders in the dairy industry appreciate its great economic significance and they are anxious to have this plague of cattle eliminated. The vital question with them is, can it be accomplished? Milch cows have a high value and they are scarce. The dairymen are not wealthy men as a rule and they can not afford to co-operate in carrying out any method that is going to bring heavy financial burdens upon them. Farmers do not like to see apparently healthy cows that are good milkers killed and destroyed for a tuberculous nodule so small that it requires an expert to find it. They are usually glad to see the badly diseased animals disposed of.

The opposition which exists to methods directed toward the elimination of tuberculosis has its origin very largely in misinformation. Personally I can say that every cattle owner with whom I have conversed on this subject who has objected to proper measures has done so because of a wrong conception of the disease. For many years there was specific instruction given in our State Farmers' Institutes, and communications from a supposed authoritative source have been and to a certain extent still are being published in one or more of our leading agricultural papers which have led many cattle owners to believe that the question of bovine tuberculosis is largely a myth. These publications have been so flagrant that the veterinarians of the State have found it necessary to take some action. At a recent meeting of the New York State Veterinary Society, a committee

was appointed to confer with the editors of agricultural papers publishing such detrimental articles and to request in the interest of the dairymen that their columns be closed to unauthenticated statements relative to bovine tuberculosis. The damage which this false teaching has done by way of permitting the spread of the disease by persuading farmers to disregard the rational precautions necessary to prevent it can not be measured. To overcome this direful influence will require much time and patient, persistent effort in presenting demonstrated facts relative to the nature and seriousness of the disease to those who through no fault of their own have come to believe that this malady is of little or no importance. Through the efforts of the State Experiment Station at Geneva, the Cornell Agricultural Experiment Station, the State Veterinary College, and the State Department of Agriculture, considerable literature has been distributed for the purpose of directing the attention of the farmers to the true nature of the disease. In response to this, there is a general awakening to the great significance of bovine tuberculosis and a desire to have it eradicated. As a testimonial to this we have the constantly increasing application of tuberculin. The amount of tuberculin called for by veterinarians at the New York State Veterinary College was twice as large in 1906 as it was in 1905, and thus far this year (1907) the demand is three times as great as it was in 1906. When the farmers are rightly informed on this disease, there is every reason to believe that they will gladly co-operate in efficient equitable measures for its eradication.

THE BANG METHOD FOR THE CONTROL OF BOVINE TUBERCULOSIS AS APPLIED IN EUROPE, CANADA AND THE UNITED STATES.

On the continent of Europe the control of bovine tuberculosis is largely in line with the method recommended by Prof. Bang. It is generally known by his name.

The Bang method for handling tuberculosis is simply the

procedure recommended and carried into effect in Denmark by Prof. Bang of the Copenhagen Veterinary College. The object of this method is to replenish a tuberculous herd with as little loss as possible. It requires that all animals that show physical symptoms of the disease shall be destroyed. Those which give a tuberculin reaction but which exhibit no evidence on physical examination of their being tuberculous are isolated. They are kept for breeding purposes. The reacting animals are carefully watched and if any of them develop obvious symptoms of the disease they are slaughtered. The stables from which the diseased animals are removed are thoroughly disinfected.

The method as originally proposed has been modified from time to time in accord with increased knowledge of the disease and the conditions under which it exists. The success of the method rests in the fact that it conforms to the chronic nature of the disease and its tendency to become arrested. The large percentage (35.4 per cent.) of dairy cows in Denmark that reacted to tuberculin suggested the importance of replenishing the herds with healthy cows before the total destruction of the reacting ones.

As the sound herd is replenished the isolated cattle may be fattened and killed, under proper inspection, for beef. The laws of nearly, if not all, countries permit the use of meat of tuberculous animals for food when the disease is localized. In this way the people of Denmark have been able to greatly reduce the very high percentage of tuberculous cattle and at the same time minimize the loss they formerly sustained by the frequent deaths of diseased animals.

The Bang method, modified to suit the local conditions, has been applied with great success in Hungary, where the reports show that many highly infected herds have been freed of the disease in from four to six years. In Norway and Sweden the results have been equally good. Prof. Regner states that the percentage of reacting animals among 36,149 cattle was, at the beginning of the application of this method, 33.6 per cent. After

at period of from two to nine years, in different herds, it has been reduced to 4.7 per cent.

Among the first, if not the first, to put the Bang method to a test in this country was the Wisconsin Agricultural Experiment Station. They began in January, 1896, with 16 reacting animals and 18 healthy cattle. In February, 1899, they had 27 healthy animals all the progeny of the group of tuberculous cattle. Russell pointed out at the time that the method afforded a practical and often a most desirable way to replace a tuberculous herd.

The method has been successfully applied at the Geneva Experiment Station. In October, 1901, the test of the herd showed 13 healthy and 17 tuberculous animals. They were separated and the method carried out. The station suffered a loss of four healthy animals in a fire, and a small number of heifer calves were born; but with all the disadvantages, in December, 1905, the herd numbered 30 sound animals and six tuberculous ones. The latter were slaughtered. Of the six, three would have passed the Federal inspection and their beef value would have been obtained had they been disposed of in that manner.

The same process has been followed by a number of cattle owners with most gratifying results. The Hon. W. E. Edwards, of Rockland, Ontario, Canada, used it in the handling of his valuable herd. In 1903, at the meeting of the American Veterinary Medical Association, he read a most forceful paper on his experience with the method, a few lines of which I quote: "The question arises, can tuberculosis, one of the most constant diseases present in our animals, be eradicated? My answer is, yes, most emphatically. I am fully convinced of the reasonable possibility of the eradication of tuberculosis from our herds and of the maintenance of sound herds."

It is not the purpose of the Bang method to return to the sound herd animals that have reacted, but which, after a period of one or more years, fail to react. Experience has shown that a variable number of reacting animals will stop reacting in from

six to eighteen months and remain apparently in a sound condition. The present interpretation of this phenomenon is that the disease has been arrested, but because the time limits of the life of tubercle bacteria residing in encapsulated lesions is not known, it cannot be considered safe to return these animals to the healthy herd. The method has two redeeming features: First, it requires the elimination of cattle that have no real value because of the advanced stage of the disease; and secondly, it enables the owner to obtain the actual worth of the others. Its success has been possible because of the great value of tuberculin in detecting the infected animals that still appeared to be in perfect health and in which the disease had just begun.

SUMMARY OF THE NEW YORK LAW AND ITS EFFECT.*

In New York the law relative to the control of tuberculosis has been changed frequently. At present it is incorporated in Article IV entitled "Diseases of Domesticated Animals" of the Agricultural Law, chapter 338, Laws of 1893, amended to July 1, 1906, and chapter 281, an act to amend, etc.

In this law tuberculosis is dealt with as other infectious diseases, excepting in Section 63, where specific reference is made to condemning, quarantining and slaughter of tuberculous animals; in Section 70 relating to the post-mortem of animals slaughtered because of a suspicion that they are tuberculous; in Section 70a relating to the compensation to owners of animals destroyed.

The appropriation for carrying out the provisions of the law has varied from year to year. Until the present it has not exceeded \$35,000 annually. Last year (1907) \$50,000 was appropriated to the Department of Agriculture for this purpose. When it is considered that this amount is appropriated to carry out all the provisions of the article which includes all of the infectious diseases of animals that occur in this State, and that rabies,

*See Appendix, p. 49

anthrax and glanders tax the resources of the Department heavily, it is obvious that the amount remaining for tuberculosis is entirely inadequate for effective work.

The law, although carried out, has not had the effect of reducing permanently the amount of tuberculosis in the cattle of the State. As interpreted and executed, herds, or as many of them as the available funds permit, are examined when their owners apply for such examination, or upon the complaint of those suspecting that milk is being sold from diseased cows. The latter class of cases, when investigated, is under authority of a *statute* relating to pure milk. While the statute provides for proper disinfection it does not make provision for retesting and the further elimination of reacting animals. The result is that within a few years after the reactors are killed the herd is liable to be as extensively diseased as in the beginning because of the holding over of animals which were infected at the time of the test but in which the disease had not begun to develop or in which it was temporarily healing. Under such conditions the State can continue to buy diseased animals, as the cattle owners are continuing to raise tuberculous ones.

One of the most serious defects in the law up to 1907 has been the lack of provision to prevent the introduction of tuberculous cows from other states. As the laws of the states south and east and of Canada require the application of tuberculin to all cows entering their dairies and the rejection of all reactors, New York has for many years been the recipient of tuberculous cattle that were rejected by neighboring states and Canada. It is impossible to estimate the number of herds into which tuberculous animals have been introduced because of this condition.

In 1900 the effect upon the herds of the State of this unrestricted admission of dairy cattle was voiced in a resolution unanimously passed by the Genesee Valley Veterinary Medical Association at their annual meeting Jan. 25, 1900.

“WHEREAS, Tuberculosis has been and is increasing to an alarming extent among cattle in Western New York, thus caus-

ing extensive loss of cattle, and endangering the public health, and as most of these cases are in cattle imported from adjoining States, or traceable to infection from such cases, be it

Resolved, That we, the members of the Genesee Valley Veterinary Medical Association, urgently call for the enactment of such laws as will give us protection, and prevent this State from being made the dumping ground for diseased animals that can not be sold in adjoining States where they have laws preventing the importation of such diseased animals.

And that we urge each member of this Association to call upon his representatives in Assembly and Senate to urge the passage of such laws."

Dr. J. H. Taylor, who introduced the above resolution, said: "Something must be done, as we are being overrun with cases of tuberculosis, nearly all of which are brought here from Buffalo. I find ten cases now where I would find but one five years ago." The lack of legislation similar to that in force in many other states, to protect the home cattle, has not only caused the development of many badly infected herds but it has also done much to discourage dairymen in trying to eliminate this disease. The present amendment to Section 60 provides that the Commissioner may require neat cattle that are brought into the State to be free from an infectious or contagious disease. As this law is new, it is too early to pass judgment upon it. The law, however, does not demand the application of tuberculin, and the appropriation does not provide the funds necessary to apply the test to all entering cattle.

The statute places the control of all of the infectious diseases of animals in the hands of the Commissioner of Agriculture. The Commissioner is empowered to employ, for the work of making the tuberculin tests and to assist him in discharging the duties imposed upon him by the law, medical or veterinary practitioners. (Sections 63 and 64.) The authority, however, rests with the Commissioner and not with the veterinarian. The veterinarians for this work are selected from an eligible list procured from a civil service examination. They are with one exception employed by the day when needed.

The New York law does not seem to fully take into account the nature of the diseases it is supposed to control. This is especially true of tuberculosis, for the statute concerning it does not seem to be intended for the carrying out of efficient and systematic methods for its eradication but rather to simply touch in a palliative way the herds here and there where it is or where it is thought to be most apparent and its effects most distressing.

However, much of the ill feelings expressed toward the law and its operation are unjust and date back for their origin to acts prior to the time that bovine tuberculosis was placed in the hands of the Commissioner of Agriculture and when there was little or no money for testing and paying for reacting animals. At the present time, the appropriation is not sufficient to meet all the requests and unfortunately herds are occasionally tested under the law and quarantined for considerable time before they are disposed of. Those who have given both the State law and the subject of bovine tuberculosis careful study will agree with the officials of the Department of Agriculture that the present laws and appropriations are inadequate to eliminate or even effectively check its spread among the cattle of the State. Measures for improving the efficiency of the statute which have been proposed by the Commissioner of Agriculture have not met with legislative favor.

SUMMARY OF THE MASSACHUSETTS LAW AND ITS EFFECT.*

In the Commonwealth of Massachusetts, the control of tuberculosis and other infectious diseases of animals has since 1902 been vested in a Cattle Bureau of the State Board of Agriculture. The Governor appoints the chief of the Cattle Bureau, who is its executive head.

This Cattle Bureau works in conjunction with the local boards of health. The inspectors appointed by the boards of health, with the approval of the Chief of the Cattle Bureau, are not veterinarians, but the agents of the Cattle Bureau are.

*See Appendix, p. 56

The use of tuberculin is restricted to cattle coming into the State and cattle brought to Brighton, Watertown and Somerville, and when the owner requests its application under the provisions of Section 31 as amended in chapter 322. The law is not entirely satisfactory but it is believed by the Chief of the Cattle Bureau that it tends to diminish the amount of tuberculosis in the cattle of the State. Theoretically it should be effective by placing the responsibility of first examining the cattle upon local inspectors. These, however, are laymen and not properly qualified to make a diagnosis. The failure to examine the herds sufficiently often or thoroughly to detect the presence of tuberculosis, if it were possible, as soon as an animal becomes suspicious, may permit the disease to spread from the undetected cases. The general practice is not to use tuberculin in the dairies from which tuberculous animals are taken and consequently many infected individuals may develop the disease sufficiently to spread it to others before they are detected and removed by the local inspectors and condemned by the agents of the Cattle Bureau.

Two essential and very valuable features of the law are those which protect the dairymen in the purchase of cows. These are: first, the testing of all cattle* that come into the State and the exclusion of all those that react to tuberculin; and secondly, the testing with tuberculin of all dairy cattle that are brought to Brighton, Watertown and Somerville. As Brighton is the chief center for buying and selling dairy cattle the testing, if carefully made, protects the dairymen who are buying cows from purchasing tuberculous ones. This seems to be a wise provision, as it is nearly equivalent in practice to the application of tuberculin to animals bought or exchanged in private sales. With all its advantages, it is not believed that the Massachusetts law is as effective in eradicating tuberculosis from the herds of the State as it would be if tuberculin were applied to all of the animals in the dairies where tuberculosis is found and the reacting ones properly disposed of.

*The Chief of the Cattle Bureau accepts cattle accompanied with a certificate from certain veterinarians that the animals have been tested and that they are free from tuberculosis.

The Massachusetts law, chapter 220 of the Acts of 1903, provides for the marking of certain carcasses and the inspection of certain domestic animals. This provides that carcasses of animals, at the time they are inspected by the Board of Health, or its agents, at slaughter houses where there is no inspector of the Bureau of Animal Industry, must be branded by the local board of health in a similar manner to meat branded by the Bureau of Animal Industry. The stamps and brands are furnished by the Cattle Bureau.

It is interesting to note that there is no indemnity for cattle that are condemned for tuberculosis, unless they have been in the State for six months.

SUMMARY OF THE WISCONSIN LAW AND ITS EFFECT.*

In Wisconsin the control of bovine tuberculosis is in the hands of a Live Stock Sanitary Board. This board consists of three members of the State Board of Agriculture, elected by that body, the bacteriologist of the State University and the State Veterinarian, who is appointed by the Governor.

The most significant feature of the work in Wisconsin is the co-operation with the State Agricultural College, which is carrying on an active educational campaign for the eradication of bovine tuberculosis. Certain students in the Agricultural College are instructed in the use of tuberculin as well as in the nature of tuberculosis and they are advised to test the cattle on their home farms and those of their neighbors who wish to have the test applied to their cattle. The result of this is that large numbers of herds are tested in which the presence of tuberculosis is not suspected. In carrying out the work the cattle owners apply to the Agricultural College for tuberculin, which is furnished them, together with blanks for recording the test, upon the filling out and signing of a written agreement. (See Appendix, p. 72.)

*See Appendix, p. 64

Upon receipt of the records of the test by the bacteriologist of the Agricultural College the temperatures are carefully examined and the owner advised of those which show a reaction. At this time the matter is turned over to the State Veterinarian, who enforces the regulations of the Sanitary Board relative to tuberculosis. The results of this work as shown by the number of animals tested and its importance in comparison with the tests made by the State Veterinarian are shown by the following statement from a letter written by Prof. Russell, May 13, 1907.

"We have just completed the synopsis of the tuberculin tests which have been made for this State for the last biennial period and I find that under the combined efforts of the State Veterinarian and the Experiment Station, the following data have been collected:—

TOTAL NUMBER OF TESTS MADE BY STATE VETERINARIAN

	No. of herds tested	No. of herds affected	No. of an'l's tested	No. of animals affected
1905-6.....	181	111	3,876	1,010 33
1906-7.....	241	144	5,171	824 15
Percentages.....	422	255 60%	9,047	1,834 22%

TOTAL NUMBER OF TESTS MADE BY EXPERIMENT STATION

1905-6.....	295	56	5,841	726 11
1906-7.....	436	141	8,363	376 5
Percentages.....	731	197 26%	14,204	1,102 7.7%

GRAND TOTAL FOR COMBINED WORK FOR PAST TWO YEARS

Percentages.....	1,153	452 39%	23,251	2,936 12%
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"From the foregoing data it appears that we have secured tests on over 34,000 head of cattle during the last two years, embracing 1,153 herds, of which the startling fact appears that 452, or 39 per cent. of all the herds examined show the disease of tuberculosis to be more or less present. Of course, this doubtless is considerably higher than the average conditions throughout the State, but if you take the results of the Experiment Station where tests have been applied to unsuspected herds, you will still see twenty-six per cent. of all of the herds tested reacted, with over seven per cent. of the total number of animals responding."

The effect of the work in Wisconsin is to protect the dairy herds of the State, (1) from the introduction of tuberculosis in cattle imported into the State, and (2) an awakening of the dairymen to the importance of having their herds free from this disease. The constantly increasing number of applications for tuberculin and tests shows that the law is working effectively toward the eradication of the disease from the State.

A very important provision of the law is that for the economic disposition of the reacting animals. The owner is given the privilege of isolating the animals and using them for breeding purposes if he wishes. If they are paid for under the statute they become the property of the Live Stock Sanitary Board. Whenever practicable they are shipped to one of the packing houses having Federal inspection and slaughtered. If they pass the inspection they are paid for. During the last year the money received for these beef animals amounted to over \$10,000 over and above the expense of shipping them. That is, by this method the State Live Stock Sanitary Board saved over \$10,000 toward paying the owners for the cattle.

The Wisconsin law is working satisfactorily and those engaged in its execution feel that it possesses no serious objectionable features. Effort is being made to improve the weak places by measures to further the prevention of the spread of the disease. The educational feature is of great value in enlightening the

farmers on their part in this work. At least once each year the State Agricultural College and Experiment Station distribute to the cattle owners a publication on some phase of tuberculosis.

The results of the co-operation with the cattle owners in applying the test seem to be satisfactory in Wisconsin. It must be remembered, however, that these men have been carefully trained at the Agricultural College in the use of tuberculin before they are allowed to apply it. The conclusion should not be drawn that owners of cattle untrained in its use should administer it. There can undoubtedly be much assistance rendered by the cattle owners in co-operation with their local veterinarians, but the subject is one that belongs to the trained veterinarian. There are many elements involved in testing cattle and for good results they must all be taken into account; and consequently the test should be made only by those competent to recognize them.

SUMMARY OF THE PENNSYLVANIA LAW AND ITS EFFECT.*

In the Commonwealth of Pennsylvania bovine tuberculosis is under the control of the State Live Stock Sanitary Board, one member of which is the State Veterinarian. This board is authorized to take such measures as may be necessary to suppress or eradicate dangerous, contagious or infectious diseases.

Under the authority of the law, the Live Stock Sanitary Board has developed an effective method of procedure known as *The Pennsylvania Plan*. I can not do better than to quote from Dr. Pearson's statement concerning it. The plan is based on the belief that the farmers of the State want healthy herds and are willing to co-operate with the State to that end, provided the terms of co-operation are not more onerous than the disease itself. The plan consists in the following:

*See Appendix, p. 73

"Circulars are distributed in regard to tuberculosis, the nature, character and importance of the disease; its method of propagation; its results and the methods that may be adopted to combat it. A good deal of the information contained in these circulars has been made use of by various agricultural papers and has thus been given increased publicity. At this time, there is a pretty general realization in all parts of Pennsylvania, of the leading facts in this matter.

"Herd owners who have wished to suppress tuberculosis in their herds have been assisted by the State Live Stock Sanitary Board under a definite plan of co-operation. According to this plan the herd owner is required to fill out and sign an application form and agreement. (See Appendix, p. 85.)

"The herd owner is at the same time informed that the inspection will be made only in accordance with the following conditions:

"Upon application from owners of tubercular cattle, the State Live Stock Sanitary Board will furnish tuberculin and inspections free, on condition that the cattle owner will agree to:

1. Assist in the examination.
2. Separate the cattle found to be tubercular from those that are healthy, and have them cared for separately until disposed of, as directed by the State Live Stock Sanitary Board.
3. Disinfect the stables and correct faulty sanitary conditions, as directed by the State Live Stock Sanitary Board.
4. Discontinue the use of milk and cream from infected cows, except when boiled or heated to 185 degrees F. and kept at this temperature for five minutes.

"Upon application from owners of dairy herds not known to be infected, the State Live Stock Sanitary Board will conduct or direct inspections of cattle and cattle stables and yards, and will furnish certificates showing the health of the animals and the sanitary condition of their surroundings: Provided, That the applicant will agree to bear the necessary expense of such inspection.

"After the inspection thus asked for has been made by an inspector selected and paid by the State Live Stock Sanitary Board, the *cattle that show physical evidence of tuberculosis* may be at once appraised and destroyed, the appraisement being made, as required by law, with due regard to the actual value and condition of the animal at the time of appraisement. The limit of appraisement for unregistered cattle is \$25 and for registered cattle \$50. Anything that may be obtained from the sale of the hide or of the carcass to a fertilizer manufacturer, the owner receives in addition to the appraisement. The members of the herd that do not show physical signs of tuberculosis but react to the tuberculin test may be disposed of in the same way as the animals that show physical evidence of tuberculosis, or if the owner prefers to keep them alive under prescribed conditions, he is permitted to do so.

"If the reacting animals are kept, they must be maintained entirely apart from non-reacting cattle. They must be stabled and pastured separately. The owner is not permitted to sell them nor is he permitted to dispose of or use their milk without previous sterilization by boiling or by heating to 185 degrees F. for ten minutes. The progeny of such reacting cows must be removed immediately after birth and reared on the milk of healthy cows or on heated milk from reacting cows. In other words, if the owner preferred to keep his reacting animals alive, he is permitted to do so under regulations similar to those that Bang formulated and that have proven so satisfactory and so safe in Denmark.

"*Applications are numerous.* So many applications for herd tests are made that it is not possible to respond affirmatively to all of them. For this reason each herd owner is required to submit his reasons for believing that his herd is infected with tuberculosis, and an attempt is constantly made to confine the inspections to the herds that are most likely to harbor diseased animals. Where an inspection of a herd is desired merely for the purpose of obtaining information as to its condition and, in the

event that it proves to be free from tuberculosis, a certificate of health (See Appendix, p. 87), the owner is required to pay for the examination. On application (See Appendix, p. 86), tuberculin is furnished free of charge for this purpose by the State Live Stock Sanitary Board.

"If it should be found in an inspection at the expense of the owner that the herd contains cattle afflicted with tuberculosis, these may be disposed of just as they are when the inspection is made, at the expense of the State, on the signing of a written agreement by the owner. (See Appendix, p. 88.)

"Special regulations for advanced and udder cases. All animals afflicted with advanced tuberculosis, or tuberculosis of the udder, are required by the regulations of the State Live Stock Sanitary Board to be placed in quarantine and the milk from such animals is not permitted to be sold or used. A clause in the Pure Food Law also prohibits the sale of milk from diseased cows and provides a penalty for so doing. If the owner of the herd has signed an application for the inspection of his entire herd, the appraisal and destruction of these advanced and udder cases may be carried out at the expense of the State and without waiting for the inspection of the remaining portion of the herd, because such animals are prolific distributors of disease germs and they should be gotten rid of as soon as possible, and the premises occupied by them disinfected. If the owner of such animals has not and will not apply for an inspection of his entire herd, the animals of the class described are held in strict quarantine until they are disposed of at the loss of the owner or until the inspection of the herd is applied for and the accompanying agreement is signed. In appraising such animals, their actual value and condition at the time of appraisement must be taken into consideration and it is usually deemed that they have lost all value excepting for fertilizing purposes, so that the amount of the appraisement is nominal."

Although the Bang method is recommended the people of Pennsylvania do not as a rule approve of it. This may be due to

the disease not being so extensive as it is in the countries where it has been successfully applied.

The testing is entirely voluntary on the part of the owner, but the result is that there are more applications than there are funds to satisfy.

The board takes many precautions to avoid subsequent infection and the redevelopment of tuberculous herds. The board urgently recommends the careful watching of herds, the retesting with tuberculin in from six to twelve months after the first inspection, and the purchase of new animals only on the tuberculin test or full particulars covering the history of the herd from which the animals are to be taken. The protection of the dairies by requiring all animals which enter the Commonwealth to pass the tuberculin test is a most important factor. The recent act creating a meat inspection service affords an additional legitimate and natural means for the equitable disposition of reacting animals that are in a suitable condition for beef.

The general effect has been to greatly reduce the amount of the disease, and to educate the dairymen in the nature of this plague which will enlist their further co-operation to completely eradicate it.

LEGISLATIVE RECOMMENDATIONS.

A careful examination of the existing conditions relative to bovine tuberculosis in this State, and the laws now in force concerning it, shows that several very important, in fact fundamental, changes appear to be necessary if this disease is to be eradicated or reduced to a possible minimum. In the following paragraphs I have set forth the requirements which appear to be necessary in a law that will operate toward eradication. There must be, in addition to the official acts, the building up of a wholesome public sentiment regarding this disease which will both support the desired legislation and turn the efforts of the dairymen in

the direction of eliminating this malady by any and all proper means.

There are, of course, many details relative to carrying on a vigorous campaign against this cattle scourge that must be omitted in a report of this kind, and there are many that experience in applying the methods will alone suggest. The following provisions, however, seem to be fundamental, although the details are difficult to formulate. If the law grants the necessary provisions the master hand of the executive officer must be relied upon to work out the details.

I. The herds of the State should be protected against the introduction from without of cattle infected with tuberculosis. The large number of tuberculous cattle that are shipped directly into New York State because of its protection to such animals and those which are left in transit because their diseased condition will not allow them to be admitted to the states intended for their destination, are sources of infection that the dairies of the State *should not* be subjected to. This channel of infection of the home dairies has been recognized and very effectively closed in many states. If other states can enforce the testing of cattle brought within their borders and reject all reactors, there is no obvious reason why the Empire State should continue to be the "dumping ground" for tuberculous cattle.

The difficulties pertaining to the proper inspection and testing of cattle passing from one state to another has suggested the desirability of having all cattle for interstate trade inspected and tested by the Bureau of Animal Industry. If such a co-operation could be arranged between the states and the Bureau it would be of great value to dairymen and assistance to the states. It is suggested that concerted effort with adjoining States be put forth to endeavor to bring about this action on the part of the Federal government. As the government now insists upon the inspection of the carcasses of all animals to be used for food that pass into interstate trade, it seems equally necessary and more important that the Federal authority should exercise a like

scrutiny over living cattle which are allowed to pass from one state to another.

2. *The purpose of the law should be to eliminate the disease.* The effect of the desired legislation should be to permanently reduce the amount of tuberculosis in the cattle of the State; to prevent its spread; to protect the healthy herds; and to eventually eradicate it from dairy after dairy, until it has disappeared.

This requires repeated examinations and tuberculin tests, that is, the following up of the disease in all infected herds which come within the operation of the law. The greatest weakness in the existing laws in states, with the exception of Pennsylvania, most active in the elimination of tuberculosis is their failure to entirely eliminate the disease from the herds that they examine or test. The leaving, without subsequent examination, of animals that later may and often do develop the disease has the further unfortunate effect that the owners come to question the methods originally applied. The disease is insidious and often slow in its progress, and to control it these natural tendencies must be taken into account, wisely met and properly overcome. The possible long period of incubation, the tendency of the lesions to become arrested, and the danger of infection after the test and before disinfection is completed, often result in having a certain percentage of cases which do not react on the first application of tuberculin develop the disease subsequently. If the herd is badly infected, as many as 30 per cent. of those which failed to react on the first test may, and have been known to, respond a few months later. The law, therefore, should provide that after the first test there should be subsequent ones in from three months to a year depending upon the condition found at the first test; the reacting animals, if any, should be disposed of the same as at the time of the first test; and the introduction of the disease in newly purchased animals should be properly guarded against. That is, tuberculosis should be *actually eliminated from all the herds which come within the operation of the law.* After the diseased animals have all been removed

the owner should be held responsible for keeping the herd sound thereafter. The time required for elimination will be sufficient to enable the owner to learn how to take the necessary precautions.

3. *The law should provide for a wise and equitable disposition of the reacting animals.* In disposing of reacting animals, due consideration should be given to their actual value. The Bang method provides a successful means of dealing with many herds. It enables the owner to replace his diseased stock with healthy animals. The slaughtering of reactors for beef, under proper inspection, is another means of securing to the people the actual value of the infected animals. The destruction of the badly diseased cases is the only disposition to be considered for that class.

The existence of a Federal meat inspection for all interstate trade and the extent of tuberculosis in cattle necessitate a *State Meat Inspection Service*. This is required not only as an aid for equitably disposing of slightly infected animals but also to protect the people of the State against the consumption of meat from cattle suffering from advanced tuberculosis, slaughtered by local butchers. At least the power of inspection should be extended to properly qualified veterinarians. The necessity for a State Meat Inspection Service, in conjunction with methods for eliminating bovine tuberculosis, will be discussed later.

4. *The method of eliminating bovine tuberculosis should include adequate educational provisions for instructing the cattle owners in the nature of the disease.* The spread of tuberculosis and its inroads in many herds is largely due to a lack of definite knowledge of the disease on the part of the farmers. To correct this the cattle owners should be furnished with literature giving in a popular style accurate information on the nature of the disease and its means of dissemination and methods of prevention. Lectures and demonstrations are also valuable in teaching the essential facts. In Wisconsin this is done by frequently

sending out bulletins on some phase of the disease from the Experiment Station and Agricultural College and by lectures and demonstrations by the State Veterinarian and the bacteriologist of the Experiment Station, at various places throughout the State. In addition to literature and lectures personal advice relative to the carrying out of the Bang method would be of great value. We can not expect such methods to be successfully carried out by those unfamiliar with their requirements without the aid of skilled professional advice. Undoubtedly much benefit would result from a closer co-operation between the veterinarian and the cattle owner. In this State there are five institutions from which to draw for educational assistance; namely, the Geneva Experiment Station, the Experiment Station at Cornell University, the State Agricultural College, the New York State Veterinary College, and the Department of Agriculture. The State Veterinary College could with adequate appropriation do the scientific work in connection with this, as with other infectious diseases; and the Agricultural College and Experiment Station can also give valuable instruction. The farmers' institutes, the local grange meetings, and other local agricultural organizations offer opportunity for lectures and demonstrations.

5. *The execution of the law and the carrying out of preventive measures should rest in the hands of properly qualified veterinarians.* Experience has shown that in the states where the best results are obtained the work on tuberculosis, as well as all other infectious diseases, is in the hands of those trained for the work. In two (Wisconsin and Pennsylvania) of the three states whose laws and methods are considered in this report the work is in the hands of a Live Stock Sanitary Board with a veterinarian as its executive head. In one (Massachusetts) the law is enforced by a Cattle Bureau with a veterinarian as its executive. It is self evident that work which is of necessity technical in character and constantly changing in detail, as new knowledge is acquired, should be in the hands of those properly trained and who are thereby competent to judge of

the professional side of the situation at any and all times. It seems that in this State it would be wise to follow along the line of experience and place this work in the hands of a state veterinarian with an advisory board of qualified veterinarians or in a veterinary division in the State Department of Agriculture with a properly qualified veterinarian as its executive. As the work to be done is entirely of a technical and professional nature, it would be much better to have the advisory board composed of men competent to pass upon such matters.

It seems important, in view of the rapid progress in animal sanitation, of the rapid increase in new methods of diagnosis and of the extensive elaboration of preventative methods, that the laws and regulations for the control of these animal scourges should be administered by those who are trained sufficiently along these technical lines. The great success in Pennsylvania is due to the fact that the veterinarian placed in charge of the execution of the law was a trained and scientific man, who has from time to time indicated the necessary legislation and has developed methods and details of work to comply with the law and to meet the existing conditions. However, a number of the states have recently adopted the plan of having a state veterinarian with a sanitary board to take charge of the control of bovine tuberculosis and other infectious diseases of animals.

6. Herds to be tested and co-operation with veterinarians and boards of health. To have a movement effective in eliminating bovine tuberculosis it is important (1) to protect the herds which are sound and (2) to eliminate the diseased animals from the infected herds. The check of the spread of tuberculosis would be enhanced and the public much better protected if the obviously tuberculous animals and those with affected udders were eliminated. As these can be detected on physical examination, it seems desirable to have all cows in herds from which milk is sold for raw consumption examined as promptly as possible and all such cases removed. The herds containing such cases

are the ones that need to be tested first. Too much stress can not be placed on the importance of eliminating advanced cases which are spreading the virus at a rapid rate. By co-operation with the veterinarians and the boards of health sound herds should be located and the infected ones detected. The local health boards can do much to hasten the elimination by insisting that all cows which furnish milk for sale shall be free from tuberculosis, as determined by the tuberculin test. If the license to sell milk depended upon the keeping of sound animals, the herds which should be taken in hand by the State authorities would soon be indicated.

If the State furnished professional advice, outlined in a general manner and supervised an efficient method for eliminating the disease from individual herds, there is little reason to doubt that voluntary requests for assistance would be sufficiently numerous to enable rapid progress toward elimination. The voluntary action on the part of the cattle owners, as found in Wisconsin and Pennsylvania, is as yet satisfactory. After the work of eradication is well under way, some legal authority might be used to clean up the few remaining herds where owners were unwilling to co-operate.

In case of voluntary request for state inspection and tests, the experience in other states warrants the state demanding sufficient evidence that the herd is infected before it applies tuberculin. The law should be to aid in detecting diseased animals in infected herds, and not finding such herds. Until much progress is made toward eradication, the State should not be called upon to test tuberculous free herds except at the expense of the owner. With proper co-operation the badly infected herds will be first to come to notice and they should be the first to be dealt with.

As soon as possible the State should arrange to officially test herds for owners who desire a State certificate for soundness; but the actual expense of such test should be borne by the owner. Such is now the practice in Massachusetts and Pennsylvania.

7. *Appropriation required.* It is clear that to provide for the proper inspection of cattle entering the State, as well as for carrying out the other necessary provisions in a law that has for its purpose the elimination of bovine tuberculosis, a larger appropriation than is now made will be required. The fact, however, must be kept in view that an appropriation alone will not accomplish the eradication of the disease. The desired results depend more upon system than large amounts of money.

The appropriation should be sufficient (1) to procure inspection of all dairy cattle coming into the State. It is not unreasonable to require the shipper of the cattle to bear the expense of this test. It is required of the dealer in certain other states. If the Federal government would make these tests it would relieve the State budget. (2) To make a physical examination of milch cows and to eliminate all obviously tuberculous ones and to quarantine or destroy all cows with tuberculous udders. Equitable compensation should be allowed the owners for such cattle. (3) There should also be funds sufficient for carrying out the testing of as many infected herds as possible, and for compensation to the owner for animals destroyed. (4) For general instruction relative to the prevention of the disease. After the obviously diseased animals are eliminated, a reasonable annual appropriation will be required for several years to carry out conservative and effective measures for eradicating the infected but apparently healthy animals. The warfare against this disease must of necessity be somewhat lengthy, and its success depends much upon the character of the organization and the qualifications of the men employed.

8. *Compensation for diseased cattle.* In administering a law which has for its objects the bettering of the condition of the dairy cows and likewise increasing the purity and safety of milk and its products for the consumer, it seems right that all concerned should unite in bearing the burden of the immediate loss of the cattle destroyed. These cattle are at the time

furnishing their owners material support. It seems fitting, therefore, that they should be properly compensated for their animals.

The animals which are in suitable condition for beef and which pass the inspection have a value. Valuable strains of milch cows and pure bred animals have a greater value for breeding purposes. The owners of such stock should be given advisory assistance in applying the Bang method. The owner should bear some loss for allowing his herd to become infected, especially as he is to be the gainer in the end by having it made sound. In certain other states no compensation is allowed for cattle that have not been in the state for a certain length of time. In Pennsylvania four months, in Massachusetts six months are required. However, this loss should not be too heavy. At least the actual value of the apparently sound but infected animals for either meat or breeding purposes should accrue to the owner or to the State. The increased value of cattle in herds which are free from tuberculosis is an asset worthy of some consideration. In framing a statute to cover this phase of the subject equity and justice to all concerned should dominate the act.

As the method suggested provides for the retesting and actual elimination of the disease and the placing of the herd on a perfectly sound basis respecting tuberculosis, it seems reasonable to allow a liberal compensation for the animals originally found to be diseased, even if badly so, but that after the herd has been "cleaned up" and proper instruction has been given to the owner respecting the care of his cattle, that all animals subsequently found to be diseased should be eliminated at the expense of the owner.

As the desired effect of the law will be attained as soon as the tuberculous animals are removed, every encouragement should be offered for individual efforts along that line. With proper local inspectors it is very probable that many suspicious and reacting cattle will find their way to the slaughter house. In order to encourage this exit, butchers should receive some indemnity for cases of generalized tuberculosis which are condemned by the inspector. Pennsylvania has provided for such

indemnity. It is suggested that New York consider the adoption of such a measure.

9. *The establishing of a State meat inspection service.* Reference has already been made to the desirability of a State meat inspection service. This is necessary at present if the public is to be safeguarded against meat from advanced cases of tuberculosis. If the thousands of reacting cattle in the State are to be eliminated many of them will undoubtedly go to slaughter houses to be killed for food. Their inspection at time of slaughter is *very* important. The power of inspection could be delegated to local veterinarians who qualify as being competent, but there should be an organized system. In all these inspections the rules and regulations governing the Federal inspection* should be followed. Pennsylvania has recently established a meat inspection service, administered under the authority of the State Live Stock Sanitary Board. It provides for ten inspectors, and veterinarians have been appointed. These men can inspect the slaughter houses and be present when animals known to have reacted to tuberculin are to be killed. The mere knowledge that an official inspector is liable to visit a slaughter house at any time with authority to seize any and all diseased meat, has a most beneficial effect upon the butcher.

The importance of such a service in the State is very great. A campaign against tuberculosis can not be effective without adequate means for looking after the rejected animal. As large numbers of these are suffering with localized and very slight lesions it is very proper that they be retained for food. It is just as desirable that the cases of generalized tuberculosis be excluded from our meat markets. It is not entirely satisfactory to leave the decision to the untrained butcher, who is usually financially interested in the carcasses. With the 1,826,000 milch cows, and 944,000 other cattle in the State more or less affected with tuberculosis, many of the unfortunate individuals will be slaughtered for food. Such is being done at present, and as

*(Order No. 137, B. A. I. 1906.)

interest in the elimination of infected animals becomes more general, the number of such cattle that will come to the butcher's block will undoubtedly be greatly increased.

In addition to the question of tuberculosis, there are many other diseases and diseased conditions found in the carcasses of food animals which should be guarded against. A satisfactory meat inspection service calls for municipal slaughter houses for all cities, in order to better care for the business and to reduce the number of inspectors.

Bovine tuberculosis is so deeply rooted in general agriculture, dairying, and public health that to devise satisfactory and efficient methods for its eradication requires very careful consideration of many and diverse interests. Bovine tuberculosis is destroying many cattle and some people but like other injurious things it will disappear when people learn to avoid it.

VERANUS A. MOORE.

APPENDIX

The Laws for Controlling Tuberculosis in Certain States

NEW YORK.

PROVISIONS OF ARTICLE IV OF THE AGRICULTURAL LAW RELATING TO DISEASES OF DOMESTIC ANIMALS.

(Chapter 338, Laws 1893, as Amended to July 1, 1906.)

ARTICLE IV.

Section 60. See Amendment, Chapter 281, Laws 1907.

Section 61. *Commissioner to issue notice.*—He shall issue and publish a notice, stating that a specified infectious or contagious disease exists in any designated county or other geographical district of the state, and warning all persons to seclude in the premises where they may be at the time, all animals within such county or district, that are of a kind susceptible to contract such disease, and ordering all persons to take such precautions against the spreading of the disease, as the nature thereof may in his judgment render necessary or expedient, and which he may specify in such notice. Such notice shall be published in such newspapers, and be posted in such manner as the commissioner may designate, and as, in his judgment, are most likely to give notice thereof.

Section 62. *Farms to be quarantined; inspection of premises.*—The Commissioner or an assistant Commissioner, shall order any premises, farm or farms where such disease exists, or recently existed, to be put in quarantine, so that no domestic animal be removed or brought to the premises or places quarantined, and shall prescribe such regulations as he may judge necessary or expedient to prevent the communication of the disease by infec-

tion or contagion, in any way from the places so quarantined. The commissioner may adopt and enforce rules regulating the sanitation of stables and other buildings used for the stabling of cattle for the purpose of preventing the existence and spread of contagion among cattle. He may provide for the inspection and examination of all such stables and buildings.

Section 63.—*Detention and destruction of animals.*—The Commissioner or an assistant commissioner, may order any or all animals coming into the state to be detained at any place or places for the purpose of inspection and examination. He may prescribe regulations for the destruction of animals affected with infectious or contagious disease, and for the proper disposal of their hides and carcasses, and of all objects which might carry infection and contagion. Whenever, in his judgment necessary, for the more speedy and economical suppression or prevention of the spread of any such disease, he may cause to be slaughtered, and to be afterwards disposed of, in such manner as he may deem expedient, any animal or animals which, by contact or association with diseased animals, or by other exposure to infection or contagion, may be considered or suspected to be liable to contract or communicate the disease sought to be suppressed or prevented. The commissioner may direct that an animal shall be condemned, quarantined or slaughtered as tuberculous, under the provisions of this article, if it shall be found to be tuberculous by a physical examination. If the owner of animals suspected of being tuberculous desires to have such animals tested with tuberculin and enters into a written agreement with the State in the manner prescribed by the Commissioner of Agriculture, before such test is made, to the effect that he will disinfect his premises and either consent to the slaughter of the animals responding to such test, or hold them and their products in strict quarantine, pursuant to the directions of the Commissioner of Agriculture, such test shall be made by a medical or veterinary practitioner designated by the Commissioner. The Commissioner may also in his discretion order such tuberculin test to be made, and if the animal responds to such test, he may cause such animal to be slaughtered or held in strict quarantine.

Section 64. *Employment of veterinary surgeons.*—The Commissioner may employ such and so many medical and veterinary practitioners and such other persons as he may, from time to time, deem necessary to assist him in discharging the duties im-

posed upon him by this article, and may fix their compensation, to the amount appropriated therefor. No animal shall be destroyed by the Commissioner or by his order on the ground that it is a diseased animal, unless first examined by a medical or veterinary practitioner in the employ of the Commissioner, nor until such practitioner renders a certificate to the effect that he has made such examination, that in his judgment such animal is affected with a specified infectious or contagious disease, or that its destruction is necessary in order to suppress or aid in suppressing such disease, or to prevent such disease, or to prevent the spread thereof, specifying the reasons for such necessity.

Section 65. *Regulations and the enforcement thereof.*—The Commissioner may prescribe such regulations as in his judgment may be thought suited for the suppression or prevention of the spread of any such disease, and for the disinfection of all premises, buildings, railway cars, vessels, and other objects from or by means of which infection or contagion may take place or be conveyed. He may alter or modify, from time to time, as he may deem expedient, the terms of all notices, orders and regulations issued or made by him, and may at any time cancel or withdraw the same. He may call upon the sheriff or deputy sheriff, to carry out and enforce the provisions of any such notice, order or regulation which he may make, and all such sheriffs and deputy sheriffs shall obey and observe all orders and instructions which they may receive from him in the premises. If the Commissioner shall quarantine any particular district or territory for the purpose of stopping or preventing the spread of the disease known as rabies, and if any dog be found loose within the said quarantine district in violation of said quarantine or regulation, any person may kill or cause to be killed such dog and shall not be held liable for damages for such killing.

Section 66. *Penalties.*—Any person violating, disobeying or disregarding the terms of any notice, order or regulation, issued or prescribed by the Commissioner under this article, shall forfeit to the people of the state the sum of one hundred dollars for every such violation.

Section 67. *Appraiser of condemned animals.*—The Commissioner of Agriculture may appoint and at pleasure remove *one* State Appraiser of condemned animals. The person so appointed shall be a person of experience and well acquainted with the value of farm animals. He shall receive an annual salary of fifteen

hundred dollars, and all necessary travelling and other expenses incurred in the performance of his duties. The Commissioner of Agriculture may also appoint from time to time such additional appraisers of condemned animals as the work of his department may necessitate. Such appraisers shall receive a compensation of five dollars per diem and all travelling and other expenses necessarily incurred in the performance of their duties. (As amended by Chapter 253 of the Laws of 1904.)

Section 68. *Appraisal of diseased animals.*—One of the State Appraisers of condemned animals shall be present at the examination of all diseased animals when such examination is conducted under this act, for the purpose of determining whether such animals should be slaughtered. Such appraiser shall determine the value of each animal directed to be slaughtered. Such value shall be the market value of such animals at the time of making such examination, as though the animal were not diseased, but the appraisal value of each head of cattle shall not exceed the sum of sixty dollars if a thoroughbred, and forty dollars if a grade. If the value of the condemned animals determined by the appraiser is not satisfactory to the owner of such animals, the values shall be determined by arbitrators, one to be appointed by the State Appraiser, and one by the owner of the animals. If such arbitrators are not able to agree as to the value of the animals, a third arbitrator shall be appointed by them. The value determined by such arbitrator shall be final. The costs and expenses of the proceedings before the arbitrators shall be paid by the owner of the animals. No cattle claimed to be thoroughbred shall be appraised as such unless the owner thereof shall furnish to the State Appraiser a duly executed certificate of registry. Such appraiser of condemned animals and the arbitrators appointed under this section may administer oaths to and examine witnesses.

Section 69. *Certificate of appraisal.*—The appraiser shall execute and deliver to the owner of the condemned animals a certificate verified by him stating the appraised value of such animals; if such value was determined by arbitrators, there shall be attached to such certificate a statement of the value so determined signed and verified by at least two of the arbitrators. The form and contents of such certificate shall be prescribed by the Commissioner of Agriculture.

Section 70. *Post-mortem examination of slaughtered animals.*—All animals suspected of being tuberculous and slaugh-

tered therefor, shall be examined by a medical or veterinary practitioner designated by the Commissioner for the purpose of determining whether or not such disease existed in such animals. There shall be attached to the certificate of appraisal a statement of the result of such examination, describing the animals found to be tuberculous and those which were found not to be tuberculous. The form of such statement shall be prescribed by the Commissioner of Agriculture. Such statement shall be verified by the veterinary or medical practitioner making the examination.

Section 70a. *Compensation to owners of animals destroyed.* —The actual appraised value, not to exceed forty dollars, at the time they are killed of all animals slaughtered under the provisions of this article, which shall be found upon a post-mortem examination not to have had the disease for which they were slaughtered, unless the same were killed on account of the violation of quarantine regulations, shall be paid to the owners of such animals. If such animals are found upon post-mortem examination to have been suffering from the disease of tuberculosis, then they shall be paid for in the manner following, to wit: If an animal had localized tuberculosis, the owner thereof shall be paid sixty per centum of the appraised value. If the animal has been suffering with generalized tuberculosis, the owner thereof shall be paid therefor forty per centum of the appraised value, but no animal slaughtered under the provisions of this article shall be paid for as herein provided, unless the said animal shall have been within the state for a period of *at least one year*. The certificate of appraisal, the statement of the result of the post-mortem examination, shall be presented by the owner or his legal representatives or assigns to the Commissioner of Agriculture. The Commissioner of Agriculture shall issue his order for the amount due as shown by such certificate and statement, which shall be paid by the State Treasurer on the warrant of the Comptroller out of moneys appropriated therefor. If the owner of the cattle is dissatisfied with the appraisal he may take his claim to the Court of Claims, which court shall have exclusive jurisdiction to hear, audit and determine all claims which shall arise under the provisions of this article for compensation for animals slaughtered and to allow thereon such sum as should be paid by the State. No compensation shall be made to any person who has wilfully concealed the existence of disease among his animals or upon his premises, or who in any way by act or by wilful neglect

has contributed to spread the disease sought to be suppressed or prevented, nor for any animal which upon a post-mortem examination is found to have the disease on account of which it was slaughtered or any dangerously contagious or infectious disease that would warrant the destruction of such animal, except as herein provided. (As amended by Chapter 167 of the Laws of 1905, passed April 8, 1905.)

Section 70b. *Expenses.*—All expenses incurred by the Commissioner in carrying out the provisions of this article and in performing the duties herein devolved upon him shall be audited by the Comptroller as extraordinary expenses of the Department of Agriculture, and paid out of any moneys in the treasury appropriated for such purposes.

Section 70c. *Federal regulations.*—The Commissioner of Agriculture may accept, in behalf of the State, the rules and regulations prepared and adopted by the Commissioner of Agriculture or the Secretary or Department of Agriculture of the United States, under any act of Congress for the establishment of a bureau of animal industry or to prevent the exportation of diseased cattle or to provide means for the extirpation and suppression of pleuro-pneumonia and other contagious diseases among domestic animals and shall co-operate with the authorities of the United States in the enforcement of the provisions of any such act.

Section 70d. *Rights of federal inspectors.*—See amendment, Chapter 281, Laws 1907.

CHAPTER 281.

AN ACT TO AMEND THE AGRICULTURAL LAW, IN RELATION TO THE SUPPRESSION OF INFECTIOUS AND CONTAGIOUS DISEASES OF DOMESTIC ANIMALS.

Became a law May 4, 1907, with the approval of the Governor.
Passed, three-fifths being present.

Section 60. *Suppression of infectious and contagious disease.*—Whenever any infectious or contagious disease affecting domes-

tic animals shall exist, be brought into or break out in this State the Commissioner of Agriculture shall take measures to promptly suppress the same, and to prevent such disease from spreading. The local boards of health shall notify the Commissioner of the existence of infectious or contagious disease affecting domestic animals in the districts subject to their jurisdiction. Any person or persons importing or bringing into this State neat cattle for dairy or breeding purposes shall report immediately upon bringing such cattle into the State to the Commissioner of Agriculture in writing, giving a statement of the number of cattle thus brought in, the place where they were procured, the lines over which they were brought and their point of destination within the State, stating when they will arrive at such point of destination, and upon the filing with the Commissioner of Agriculture at the time of making the said report, a certificate issued by a duly authorized veterinary practitioner, to the effect that he has duly examined said animal or animals and that said animals are free from any infectious or contagious disease, the Commissioner of Agriculture may issue a permit to said person or persons to remove said cattle immediately. Otherwise, said person or persons shall hold or detain such animals at least forty-eight hours at such point of destination for inspection and examination, provided they are not sooner examined or inspected, by the Commissioner of Agriculture or his duly authorized agent or agents. Each animal brought into the State in violation of the above provisions shall constitute a separate and distinct violation of the agricultural law. The provisions of this section, relating to the importation of neat cattle for dairy or breeding purposes, *shall not* apply to cattle imported into this State at a point where there is federal inspection, so far as the same shall relate to making advance reports to the Commissioner of Agriculture. But parties importing or receiving such cattle at such places shall give such information to the Commissioner of Agriculture as he may from time to time request relative to such cattle so imported.

Section 2. Section seventy-d of such chapter, as added by chapter three hundred and twenty-one of the laws of nineteen hundred and one, is hereby amended to read as follows:

Section 7od. *Rights of federal inspectors.*—The inspectors of the bureau of animal industry of the United States shall have the right of inspection, quarantine and condemnation of animals affected with any contagious, infectious or communicable disease,

or suspected to be so affected or that may have been exposed to any such disease, and for such purposes they may enter upon any ground or premises; they may call the sheriffs, constables and peace officers to assist them in discharge of their duties in carrying out the provisions of any such act; and all sheriffs, constables and peace officers shall assist such inspectors when so requested, and such inspectors shall have the same powers and protection as peace officers, while engaged in the discharge of their duties. This State shall not be liable for any damages or expenses caused or made by such inspectors.

Section 3. This act shall take effect immediately.

MASSACHUSETTS.

CATTLE BUREAU OF THE STATE BOARD OF AGRICULTURE.

Laws Relating to Contagious Diseases of Domestic Animals.

1902.

ACTS OF 1902, CHAPTER 116.

An Act to Abolish the Board of Cattle Commissioners and to Create a Cattle Bureau of the State Board of Agriculture.

Revised Laws, Chapter 90.

Section 4. The board may from time to time make orders and regulations relative to the prevention, suppression and extirpation of contagious diseases of domestic animals, and relative to the inspection, examination, quarantine, care and treatment or destruction of such animals which are affected with, or have been exposed to, such diseases, and relative to the burial or other disposal of their carcasses and the cleansing and disinfection of districts, buildings or places in which such contagion exists or has existed. It shall also from time to time make and prescribe forms for records of inspectors, certificates of examinations, notices and orders of quarantine, orders for killing and burial, and for returns of inspectors which are required by this chapter. All orders and regulations made by the board shall be entered on

its records, and a copy thereof shall be sent to each inspector in the city or town to which the orders or regulations apply, and be published by him in such manner as the orders or regulations may prescribe.

Section 5. The board may establish hospitals or quarantine stations, with proper accommodations, wherein, under prescribed regulations, animals selected by it may be confined and treated for the purpose of determining the characteristics of a specific contagion and the methods by which it may be disseminated or destroyed, and may direct inspectors to enforce and carry into effect all regulations made from time to time for that purpose.

Section 6. If the board or any one of its members or agents, by examination of a case of contagious disease of domestic animals, is of opinion that the public good so requires, it or he shall cause the diseased animal to be securely isolated or to be killed without appraisal or payment. An order for killing shall be issued in writing by the board or any of its members, may be directed to an inspector or other person, and shall contain such direction as to the examination and disposal of the carcass and the cleansing and disinfection of the premises where such animal was condemned as the Board of Commissioners consider expedient. A reasonable amount may be paid from the treasury of the Commonwealth for the expense of such killing and burial. If thereafter it appears, upon post mortem examination or otherwise, that such animal was free from the disease for which it was condemned, a reasonable amount therefor shall be paid to the owner by the Commonwealth. If any cattle which are condemned as afflicted with tuberculosis are killed under the provisions of this section, the full value thereof at the time of condemnation, not exceeding forty dollars for any one animal, shall be paid to the owner by the Commonwealth if such animal has been owned within the Commonwealth six consecutive months prior to being killed, or if it has been inspected and satisfactory proof has been furnished to the board by certificate or otherwise that it is free from disease, and if the owner has not, prior thereto, in the opinion of the board, by wilful act or neglect, contributed to the spread of tuberculosis; but such decision shall not deprive the owner of the right of arbitration as hereinafter provided.

Section 7. The board may make regulations for the inspection of meat, which shall conform to the regulations of the United

States Bureau of Animal Industry for the inspection of meat for export and for interstate commerce.

Section 8. (Examinations by the board under oath.)

Section 9. (Aid by sheriffs, etc.)

Section 10. (Quarantine of imported animals.)

Section 11. The Board of Health of a city or town, any member or agent thereof or any other person who has knowledge of or reason to suspect the existence of any contagious disease among any domestic animals in this Commonwealth, or that any domestic animal is affected with such contagious disease, whether such knowledge is obtained by personal examination or otherwise, shall immediately give notice thereof in writing to the Board of Cattle Commissioners or to any of its members, agents or inspectors. Whoever fails to give such notice shall be punished by a fine of not more than one hundred dollars; but no such notice shall be required in the city of Boston relative to glanders, farcy or rabies, which shall be cared for by the Board of Health of said city. Upon the receipt of such notice, the board shall inspect or cause its authorized agent to inspect any such animals, and if upon such inspection said board or agent suspects or has reason to believe that contagion exists, it or he shall proceed according to the provisions of sections eighteen to twenty-one, inclusive.

Section 12. The mayor and aldermen in cities, except Boston, and the selectmen in towns shall annually, in March, subject to the approval of the Board of Cattle Commissioners, appoint one or more inspectors of animals, and before the first day of April shall send to said board the name, address and occupation of each qualified inspector. They may remove any inspector, and shall thereupon immediately appoint another in his place and send notice thereof to said board.

Section 13. A city or town shall, for each refusal or neglect of its officers to comply with the requirements of the preceding section, forfeit not more than five hundred dollars. Said board may appoint one or more inspectors for such city or town, and may remove an inspector who refuses or neglects to be sworn or who, in the opinion of the board, does not properly perform the

duties of his office and may appoint another inspector for the residue of his term.

Section 14. An inspector shall be sworn to the faithful performance of his official duties, and shall receive a reasonable compensation from the city or town for which he is appointed. If he is appointed by the Board of Cattle Commissioners, his compensation shall be fixed by said board, shall not exceed five hundred dollars a year, and shall be paid by the city or town for which he is appointed. In towns having a valuation of less than two and one-half million dollars, one-half of such compensation, not exceeding two hundred and fifty dollars for each inspector in any one year, shall be paid by the Commonwealth.

Section 15. An inspector shall keep a record of all inspections made by him and his doings thereon, and shall make regular returns thereof to the board. The board shall prescribe the forms in which and the times at which such records and returns shall be made and it may at any time inspect them and make copies thereof.

Section 16. An inspector shall comply with and enforce all orders and regulations which may be directed to him by the Board of Cattle Commissioners or by any of its members. If he refuses or neglects so to do, he shall be punished by a fine of not more than five hundred dollars.

Section 17. Said inspectors shall make regular and thorough inspections of all neat cattle, sheep and swine found within the limits of their several cities and towns, except as provided in section eleven. Such inspections shall be made at such times and in such manner as the board shall from time to time order. They shall also from time to time make inspections of all other domestic animals within the limits of their several cities and towns if they know, or have reason to suspect, that such animals are affected with or have been exposed to any contagious disease, and they shall immediately inspect all domestic animals and any barn, stable or premises where any such animals are kept whenever directed so to do by the board or any of its members; but the provisions of this section shall not apply to the inspection of sheep or swine slaughtered in wholesale slaughtering establishments, or to the obtaining of a license for the slaughtering of such sheep or swine.

Section 18. An inspector who is satisfied, upon an examination of any neat cattle, sheep or swine, that they are free from contagious disease, shall deliver to the owner or to the person in charge thereof a written certificate of their condition, in such form as the board shall prescribe, signed by him, and shall enter a copy of such certificate upon his records.

Section 19. An inspector who, upon an examination of a domestic animal, suspects, or has reason to believe, that it is affected with a contagious disease shall immediately cause it to be quarantined or isolated upon the premises of the owner or of the person in whose charge it is found, or in such other place or inclosure as he may designate, and shall take such other sanitary measures to prevent the spread of such disease as may be necessary or as shall be prescribed by any order or regulation of the board. He shall also deliver to the owner or person in charge of such animal, or to any person having an interest therein, a written notice or order of quarantine signed by him, in such form as the board shall prescribe, and shall enter a copy of said notice upon his records.

Section 20. Such notice or order may be served by an officer qualified to serve civil process, or it may be delivered by the inspector to the owner or person having an interest in the animal concerned or to the person in charge of such animal, or it may be left at his last and usual place of abode or may be posted upon the premises where said animal is quarantined or isolated. A copy thereof, with the return of said officer or inspector thereon that such service has been made, shall be competent evidence in any court that such quarantine has been imposed. If an animal has been so quarantined, it shall remain in quarantine until the further order of the board or of one of its members.

Section 21. If animals have been quarantined, collected or isolated upon the premises of the owner or of the person in possession of them at the time such quarantine is imposed, the expense thereof shall be paid by such owner or person; but if specific animals have been quarantined or isolated under the provisions of section five or section nineteen for more than ten days upon such premises, as suspected of being affected with a contagious disease, and the owner is forbidden to sell any of the product thereof for food, or if the animals have been quarantined, collected or isolated on any premises other than those of

such owner or person in possession thereof, the expense of such quarantine shall be paid by the Commonwealth.

Section 22. An inspector who has caused a domestic animal to be quarantined, as provided in the preceding section, shall immediately give a written notice thereof, with a copy of the order of quarantine, to the board, and shall give such information to no other person.

Section 23. An inspector, duly qualified, may enter any building or part thereof or any enclosure or other place where an animal is kept, for the purpose of inspecting or examining such animal and may examine or inspect the same. Whoever prevents, obstructs or interferes with such inspector or other person having the power and authority of an inspector in the performance of any of his duties as provided herein, or whoever hinders, obstructs or interferes with his making such inspection or examination, or whoever secretes or removes any animal, for the purpose of preventing it from being inspected or examined, shall be punished by a fine of not more than one hundred dollars or by imprisonment for not more than sixty days, or by both such fine and imprisonment.

Section 24. (Examination of barns, etc.)

Section 25. (Penalties.)

Section 26. If the owner who is entitled to compensation under the provisions of section six for the destruction of an animal affected with tuberculosis cannot agree with the Commissioner condemning the same as to its value, the value shall be determined by arbitrators, one of whom shall be selected by the Commissioner and one by the owner, or if the owner neglects or refuses for twenty-four hours to select one the arbitrator already selected shall select another, and if such arbitrators cannot agree, they shall select a third arbitrator. Such arbitrators shall be sworn faithfully to perform the duties of their office, and shall determine the value of such animal according to the provisions of section six; and the full value, so determined, shall be paid to the owner as provided in said section. Either party aggrieved by the doings of the board or of any of its members, under the provisions of section six, or by the award of such arbitrators, may file a petition for the assessment of his damages in

the Superior Court for the county in which such animal was killed or in the county of Suffolk. Such petition shall be by or against the Board of Cattle Commissioners, and a copy thereof shall be served upon the respondent or, if the petition is against said Board of Cattle Commissioners, upon one of the commissioners, in the same manner as other civil process. The petition shall be filed in the clerk's office of the Superior Court within thirty days after the killing of such animal or animals and shall be subject to the provisions of sections fifty-six and seventy-four of chapter one hundred and seventy-three and the petition may be tried in the same manner as other civil cases. If, upon the trial, it is determined that such animal was not affected with the disease for which it was condemned, reasonable compensation may be awarded therefor, and if the owner recovers damages in excess of the amount previously awarded to him by the arbitrators or allowed to him by the commissioners, he shall recover costs; otherwise he shall pay costs. The damages, costs and expenses incurred by the commissioners in prosecuting or defending such action shall be paid by the Commonwealth.

Section 27. Whoever kills an animal or causes it to be killed, with the consent of the owner or person in possession thereof, upon suspicion that it is affected with or has been exposed to a contagious disease, and who, upon the inspection of the carcass thereof, finds or is of the opinion that it is affected with a contagious disease, shall forthwith notify such owner or person in possession thereof and the Board, its agent or inspector of the existence of such disease, and of the place where the animal was found, the name of the owner or person in possession thereof and of the disposal made of such carcass. Whoever violates the provisions of this section shall be subject to the same penalties as are provided in section twenty-three.

Section 28. Contagious diseases, under the provisions of this chapter, shall include *glanders, farcy, contagious pleuro-pneumonia, tuberculosis, Texas fever, foot and mouth disease, rinder pest, hog cholera, rabies, anthrax or anthracoid diseases, sheep scab and actinomycosis.*

Section 29. Whoever fails to comply with a regulation made, or an order given, by the Board of Cattle Commissioners or by any of its members, in the discharge of its or his duty, shall be

punished by a fine of not more than five hundred dollars or by imprisonment for not more than one year.

Section 30. Texan, Mexican, Cherokee, Indian or other cattle, which the Board has reason to believe may spread contagious disease, shall not be driven on the streets of a city or town or on any road in this Commonwealth, or outside the stock yards connected with any railroads in this Commonwealth, contrary to an order of the Board, and they shall be kept in different pens from those in which other cattle are kept in all stock yards in the Commonwealth. Whoever violates the provisions of this section shall be punished by a fine of not less than twenty nor more than one hundred dollars.

Section 31. Tuberculin as a diagnostic agent for the detection of tuberculosis in domestic animals shall be used only upon cattle brought into the Commonwealth and upon cattle at Brighton, Watertown and Somerville; but it may be used as such diagnostic agent on any animal in any other part of the Commonwealth, with the consent in writing of the owner or person in possession thereof, and upon animals which have been condemned as tuberculous upon physical examination by a competent veterinary surgeon.

Section 32. A person who has animals tested with tuberculin shall not be entitled to compensation from the Commonwealth for any animals which react to the tuberculin test unless they have been tested by the Board of Cattle Commissioners or its authorized agents, acting as such at the time of the test, and such testing shall be subject to the supervision and control of the Board.

Section 33. No compensation shall be allowed by the Commonwealth to an owner of condemned cattle who has failed to comply with the reasonable regulations of the board relative to cleanliness, ventilation, light, disinfection and water supply. An owner of cattle who refuses to comply with any such regulation shall be punished by a fine of not more than fifty dollars.

Section 34. The Superior Court shall have jurisdiction in equity to enforce the provisions and restrain violations of the provisions of this chapter.

CHAPTER 322 OF THE ACTS OF 1903.

An Act to Provide that Tests by the Use of Tuberculin shall be Made Without Charge to Citizens of the Commonwealth.

Be it enacted, etc., as follows:

Section thirty-one of chapter ninety of the Revised Laws is hereby amended by adding at the end of said section the words:— Such tests by the use of tuberculin shall be made without charge to the citizens of the Commonwealth, and in all other cases the expense of such tests shall be paid by the owner of such animals or by the person in possession thereof,—so as to read as follows:—Section 31. Tuberculin as a diagnostic agent for the detection of tuberculosis in domestic animals shall be used only upon cattle brought into the Commonwealth and upon cattle at Brighton, Watertown and Somerville; but it may be used as such diagnostic agent on any animal in any other part of the Commonwealth, with the consent in writing of the owner or person in possession thereof, and upon animals which have been condemned as tuberculous upon physical examination by a competent veterinary surgeon. Such tests by the use of tuberculin shall be made without charge to citizens of the Commonwealth, and in all other cases the expense of such tests shall be paid by the owners of such animals or by the person in possession thereof. (Approved May 5, 1903.)

WISCONSIN.

Live Stock Sanitary and Veterinary Laws.

1905.

Appointment of state veterinarian; term, duties. Section 1492, statutes of 1898. The Governor shall, with the advice and consent of the Senate, appoint a competent veterinary surgeon to the office of State Veterinarian; such appointment shall be made for the term of two years and until the qualification of his successor. The person so appointed shall take an oath of office which shall be filed in the office of the Secretary of State. It shall

be the duty of such veterinarian to prevent the introduction or spread of contagious and infectious diseases among domestic animals in this state, to co-operate with the State Board of Health in controlling and suppressing such diseases as are common to men and animals or any diseased condition of animals likely to have a deleterious effect upon the general health of human beings, to make such scientific study, investigations and experiments as he shall deem necessary in relation to the prevention and cure of diseases among animals and extend information concerning the same.

Duties of local boards of health. Section 1492a of the statutes of 1898, as amended by ch. 215, laws of 1905. The various town, village and city boards of health shall take cognizance of the existence of contagious and infectious diseases among animals, report all cases thereof coming under their observation in their respective localities to the State Veterinarian and co-operate with him to prevent their spread; any such board, or the health officer thereof, may order that any animal affected or suspected of being affected, with any such disease or which has been exposed thereto, shall be quarantined, and the removal thereof from any premises where it may be ordered to be kept shall be forbidden. If any such board shall be unable to determine the nature of any disease prevailing among animals they may request the State Veterinarian to investigate the same. Said veterinarian may quarantine premises upon which is a domestic animal afflicted with a contagious or infectious disease or that is suspected to be so afflicted or that has been exposed to such disease, and forbid the removal of any such animal or any animal susceptible to such disease therefrom by serving a written order upon the occupant or owner of such premises, and by posting a copy of such order at the usual entrance thereto; and if any such disease shall become epidemic in any locality he shall immediately notify the Governor, who may thereupon issue a proclamation quarantining such locality, and forbidding the removal therefrom of any animal of the kind so diseased or of any kind susceptible to such disease without the written permission of the State Veterinarian. Any person who shall remove or allow the removal, without such permission, of any animal quarantined under the provisions of this section, shall be punished as provided by law, be liable to all persons injured thereby for the damages sustained, and forfeit all right to the indemnity which he might be entitled

to under section 1492b. And shall be deemed guilty of misdemeanor and upon conviction thereof punished by a fine of not less than twenty-five (\$25.00) nor more than two hundred dollars (\$200.00) or by imprisonment in the county jail for not less than thirty days. "If the local health officer, or local board of health shall fail or refuse to co-operate with the State Veterinarian or the Live Stock Sanitary Board in matters relating to the control and eradication of any contagious disease such as is involved in the quarantine or disposition of affected animals, or disinfection of infected premises, he or they shall be removed from office by the person or persons having power to make this appointment. The place shall be immediately filled by said appointive power."

Section 2. This act shall take effect and be in force from and after its passage and publication.

Approved May 9, 1903.

Transportation and concealment of diseased animals. Section 1491, statutes of 1898. No person shall bring into this state any domestic animal afflicted with, or that has been exposed to any infectious or contagious disease, or remove from any point within the state to another point therein any animal so afflicted or exposed; and every person who shall violate any provision of this section shall be punished as provided by law and be liable to any person injured thereby for the damages by him sustained; and any corporation which shall bring any such animal into this state or transport any animal so afflicted or exposed from one point within the State to another point within shall also be so liable to any person injured by its acts, and in addition shall forfeit not less than two hundred dollars nor more than two thousand dollars.

Any person who shall know or have reason to suspect that there is upon his premises or upon premises under his control as agent or otherwise any domestic animal afflicted with a contagious or infectious disease and who shall fail or neglect to immediately report the fact to the local board of health or some member thereof, or who shall attempt to conceal the existence of such disease, or permit any animal afflicted therewith to run at large or to be kept in any place where other animals can become infected thereby, or who shall resist or obstruct the State Veterinarian in the performance of his duty, or sell, offer for sale, give away, or in any manner part with the possession of any such animal, or any animal that has been exposed and is susceptible to any contagious or infectious disease, shall be punished as provided by law, be

liable to all persons injured thereby for all damages by them sustained and shall forfeit his right to indemnity for the slaughter of such animal.

Board, how constituted; meetings; organization. Section 1, ch. 440, laws of 1901. There is hereby constituted a State Live Stock Sanitary Board which shall consist of three members of the State Board of Agriculture, to be chosen by that body from its membership, the bacteriologist of the State Agricultural College, and the State Veterinarian; the last two mentioned members to be *ex-officio* members of the Board, and the State Veterinarian to serve without additional compensation. The members selected from the State Board of Agriculture shall hold office for a term of three years, except that the member first chosen shall hold his position for one year, the second for two years, the third for three years from the first day of June, 1901. They shall serve without salary, but shall be paid three dollars per day, and all members of the Board shall be paid their actual expenses when in the discharge of their duties. Meetings of the Board shall be limited to twelve in each year, and the service of no member on said Board, for which a per diem is paid, shall exceed thirty days in any one year. The Board may organize by the election of a president and secretary and shall hold its office in such room in the capitol as the Governor may designate.

CHAPTER 162, LAWS OF 1905.

Section 2 of chapter 440 of the laws of 1901 is hereby amended so as to read as follows: Section 2. It shall be the duty of the State Live Stock Sanitary Board to protect the health of domestic animals of the state; to determine and employ the most efficient and practical means for the prevention, suppression, control, or eradication, of dangerous, contagious or infectious diseases among domestic animals; and for these purposes it is hereby authorized and empowered to establish, maintain, enforce and regulate such quarantine and other measures relating to the movement and care of animals and their products, the disinfection of suspected localities and articles and the disposition of animals, as it may deem necessary, and to adopt from time to time, all such regulations as may be necessary and proper for carrying out the purposes of

this act. Provided, however, in the case of slowly contagious diseases, only suspected or diseased animals shall be quarantined, and in case of bovine tuberculosis or actinomycosis, the owner shall be granted the option of retaining the animals in quarantine, under such restrictions as the Board may prescribe or of shipping them under the auspices and direction of the Board to some abattoir designated by it for immediate slaughter under United States government inspection. In case of the slaughter of animals under the provisions of this section the owner shall receive the net proceeds of the sale thereof and shall have no further claim against the State on account of such slaughter.

CHAPTER 32, LAWS OF 1905.

Section 3 of chapter 440 of the laws of 1901, as amended by chapter 22, of the laws of 1903, is hereby amended so as to read as follows: Section 3. Whenever the owner shall not exercise the option mentioned in the preceding section and it shall be deemed necessary by the Board to slaughter diseased animals, written notice shall be given to the owner, his agent or the person in charge of such animals, and to a Justice of the Peace in the county in which the animals may be, of the purpose to order the slaughter thereof, giving the number and description of the animals, and the name of the owner if known. Such notice shall be entered on the docket of such Justice, who shall immediately thereafter summon such owner, agent or possessor, and also three disinterested citizens of the county, not residents of the immediate neighborhood in which such animals are owned or kept, to appraise the value thereof. Such appraisers shall, before entering upon the discharge of their duties, be sworn by such Justice to make a true appraisement without prejudice or favor, of the value of such animals, and if such slaughter is made on the premises where said animals are kept, they shall certify in their return that they have seen the appraised animals slaughtered. In making the appraisement of diseased animals the appraisers shall determine their value in the condition in which they are found at the time of the appraisement; but the appraised value of no single animal shall exceed fifty dollars. In case of bovine tuberculosis if it shall be deemed advisable by the Live Stock Sanitary Board, such appraised animals shall be shipped at the expense of the State and under the direction and control of the Board to some abattoir

to be designated by the Board for immediate slaughter under United States government inspection. A report must be submitted by a member of the Live Stock Sanitary Board stating that said animals have been slaughtered. The proceeds of such sale together with an account thereof and all disbursements made in connection with such shipment shall be returned to the secretary of the Board and such net proceeds be by the secretary immediately transferred to the Secretary of State who in turn shall pay the same to the State Treasurer. If such appraised animals are slaughtered on the premises, said slaughter shall be made under the direction of local health officer or the chairman of the Town Board, or the State Veterinarian, or his assistant, or any member of the State Live Stock Sanitary Board. The owner of slaughtered animals shall receive no compensation for the same, until said Sanitary Board is satisfied that the infected premises have been disinfected in such manner as to prevent the further spread of the disease.

Section 2. This act shall take effect and be in force from and after its passage and publication.

Importations, powers of Board to prohibit; suspected stock.
Section 4. Whenever the State Live Stock Sanitary Board shall have reason to believe that there is danger of the introduction into this State of any contagious or infectious disease prevailing among domestic animals, in any district, outside this State, or its dissemination from one district in this State to another, it shall investigate the existing conditions, and if it concludes that danger exists to the live stock interests of this state therefrom, it may, with the advice and consent of the Governor, prohibit the importation of animals of the kind diseased from the infected district, into this state, or the moving of them from one part of the state to another, except under such regulations as the Board may establish. It shall be the duty of every person who shall have reason to suspect that there is upon his premises, or upon the premises occupied by him, or under his control, any domestic animal having a contagious or infectious disease, to immediately report the fact to the local board of health or some member of the same, who shall immediately report such case to the State Veterinarian, or the secretary of the Board. The Board or State Veterinarian may require the owner of suspected stock to employ *at his own expense*, a qualified veterinary surgeon, to examine such stock, and determine whether, in

his opinion, the disease exists. This Board or any member thereof may enter upon any premises or go into any building or place, where he has reason to suspect there may be diseased animals, and examine the same and may call to his aid, if necessary, the sheriff or any constable of the county, in which such animals may be located, and all such officers when so called upon, shall assist such Board or member thereof in the enforcement of the provisions of this act. Animals in transit in the State, are hereby declared to be under the provisions of this act.

CHAPTER 272, LAWS OF 1905.

Relating to the importation of cattle. Section 1. The importation of cattle into the state for breeding or dairy purposes is hereby prohibited, excepting when such cattle are accompanied by a certificate of inspection made by a duly qualified veterinary surgeon who is a graduate of a recognized veterinary college in the United States, Canada or Europe. Such certificate shall show that at the time of said inspection and within six months prior to shipment, said cattle had been subjected to tuberculin test and were free from tuberculosis or any other contagious disease of a malignant character, or in lieu of such an inspection certificate as above required, cattle may be shipped in quarantine to their first destination within the state, there to remain in quarantine under the direction of the local health officer until properly examined, at the expense of the owner, by an inspector duly appointed by the State Live Stock Sanitary Board.

Section 2. In case animals are inspected outside the state, duly certified certificates of inspection, giving in full the temperature records of the tuberculin test, must be prepared in triplicate, one of which is furnished the shipper, one furnished the transportation company hauling the cattle, and one forwarded to the State Live Stock Sanitary Board at Madison, Wisconsin. The expense of such inspection and certificate shall be paid by the owner of such cattle.

Section 3. In case any cattle (including dairy cows, neat cattle for breeding, feeding or for temporary show purposes) are not accompanied with a duly certified certificate of inspection, the railroad company accepting such animals for shipment must immediately notify the secretary of the Live Stock Sanitary Board

at Madison, Wisconsin, giving the name of the consignee, the number of animals shipped and the destination of the same, and the time of shipment from the starting place. The owner or shipper of such stock shall also notify the secretary of the Live Stock Sanitary Board at Madison, Wisconsin, of such shipment, stating that said animals had not been examined prior to their delivery to the transportation company transporting the same. Such statement shall be certified to before a notary and shall include a statement of the number of animals shipped and full description of the same, and the use for which they are immediately intended.

Section 4. The Live Stock Sanitary Board shall upon the receipt of such notification, notify the local health officer of such quarantine. In case the owner certifies that such animals are immediately and only intended for feeding or temporary show purposes, the Sanitary Board will order their release from quarantine, but, in case of animals intended for breeding or dairy purposes which are not furnished with a properly certified certificate of inspection, the same shall be duly examined by an inspector appointed by the Board. If after such examination said animals shall be found to be free from disease, the same shall be released upon payment by the owner of the expenses of such quarantine and examination. If upon such examination said animals, or any of them, shall be found to be affected with tuberculosis, or any other contagious or infectious diseases, then and in such an event, the Wisconsin State Live Stock Sanitary Board shall quarantine such animals and the same shall be disposed of in the manner provided in Chapter 440 of the laws of Wisconsin of 1901, and the laws supplementary thereto and amendatory thereof, except that in no event shall the owner or shipper of such animals receive any indemnity from the State in case such animals are slaughtered, or the owner may re-ship affected animals to party or parties from whom the same were purchased. The expense of such quarantine, of the examination of such animals and subsequent disinfection of quarantined yards where disease is found to exist shall be paid by the owner or shipper of said cattle, the cost of such examination not to exceed seven dollars (\$7.00) per day and expenses.

Section 5. The provisions of this act shall not apply to persons transferring cattle through the State on cars to points beyond the State or to persons living near the State line and owning land

in adjoining States, and who may drive said cattle to and from said land for pasturage.

Section 6. Animals brought into the State for purposes of exhibition at county, State or other fairs, if sold within the State, must be subjected to the same test as breeding or dairy animals. Transportation companies unloading cattle in this State, which are not accompanied by a certificate of inspection as above designated, except as provided in Section 3 of this act, shall be subject to a penalty of not less than fifty dollars nor more than two hundred dollars for each car so unloaded in this State, such penalty to be recovered at the suit of the State, brought by the Attorney General.

Section 7. Any person or persons bringing into this State cattle that are not accompanied by a certificate of inspection as hereinbefore provided for, or failing to comply with the provisions of Section 3, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than fifty dollars, nor more than two hundred dollars.

Section 8. This act shall take effect and be in force from and after its passage and publication.

Approved May 31st, 1905.

APPLICATION FOR TUBERCULIN.

Application is hereby made for.....doses of tuberculin for testing.....head of mature animals and.....head of young stock on the farm of, of, Wisconsin.

No charge will be made for this tuberculin, provided the owner of the herd and the person making the test agrees to the following conditions:

1. The test shall be made within thirty days after the receipt of the tuberculin and the temperature records, made out on blank furnished, sent at once to H. L. Russell, Experiment Station, Madison, Wis., who will report to the owner the results of the test.

2. In case any tuberculous animals are found in the herd,

the owner agrees to remove them at once from the healthy portion of the herd, so as to prevent further spread of the disease, and not to sell them to any person except for immediate slaughter. Reacting animals may be disposed of by the State under the rules of the Live Stock Sanitary Board. Address Secretary, Madison, Wis.

3. In case tuberculous animals are found in the herd, the owner agrees to thoroughly disinfect the stables occupied by the herd.

In making application for tuberculin, state whether you suspect the presence of the disease in your herd.

If so, what reason have you for such suspicions?

(Signed)
Owner of herd.

(Signed)
Person making test.

PENNSYLVANIA.

AN ACT

To ESTABLISH THE STATE LIVE STOCK SANITARY BOARD OF PENNSYLVANIA, AND TO PROVIDE FOR THE CONTROL AND SUPPRESSION OF DANGEROUS, CONTAGIOUS OR INFECTIOUS DISEASES OF DOMESTIC ANIMALS.

Section 1. Be it enacted, etc., That a Board is hereby established to be known as "The State Live Stock Sanitary Board." This Board shall consist of the Governor of the Commonwealth, the Secretary of Agriculture, the State Dairy and Food Commissioner and the State Veterinarian who shall be a competent and qualified person as provided in the act entitled "An Act to create a Department of Agriculture and define its duties."

Section 2. That it shall be the duty of the State Live Stock Sanitary Board to protect the health of the domestic animals of the State, to determine and employ the most efficient and prac-

tical means for the prevention, suppression, control or eradication of dangerous, contagious or infectious diseases among the domestic animals, and for these purposes it is hereby authorized and empowered to establish, maintain, enforce and regulate such quarantine and other measures relating to the movements and care of animals and their products, the disinfection of suspected localities and articles and the destruction of animals, as it may deem necessary, and to adopt from time to time all such regulations as may be necessary and proper for carrying out the purposes of this act; Provided, however, In the case of any slowly contagious diseases only suspected or diseased animals shall be quarantined.

Section 3. That when it shall be deemed necessary to condemn and kill any animal or animals to prevent the further spread of disease, and an agreement cannot be made with the owners for the value thereof, three appraisers shall be appointed, one by the owner, one by the Commission or its authorized agent, and the third by the two so appointed, who shall, under oath or affirmation, appraise the animal or animals, taking into consideration their actual value and condition at the time of appraisement, and such appraised price shall be paid in the same manner as other expenses under this act are provided for; Provided, That under such appraisement not more than twenty-five dollars shall be paid for any infected animal of grade or common stock, and not more than fifty dollars for any infected animal of registered stock, nor more than forty dollars for any horse or mule of common or grade stock and not to exceed fifty per cent. of the appraised value of any standard bred, registered or imported horses.

Section 4. That the Board or any member thereof, or any of their duly authorized agents, shall at all times have the right to enter any premises, farms, fields, pens, abattoirs, slaughter houses, buildings, cars or vessels where any domestic animal is at the time quartered, or wherever the carcass of one may be, for the purpose of examining it in any way that may be deemed necessary to determine whether they are or were the subjects of any contagious or infectious diseases.

Section 5. That any person or persons wilfully violating any of the provisions of this act or any regulation of the State Live Stock Sanitary Board, or wilfully interfering with officers appointed under this act, shall be deemed guilty of misdemeanor

and shall upon conviction be punished by a fine not exceeding one hundred dollars or by imprisonment not exceeding one month, or both, at the discretion of the court.

Section 6. That the State Live Stock Sanitary Board is hereby empowered to appoint and employ such assistants and agents and to purchase such supplies and material as may be necessary in carrying out the provisions of this act, and the Board and the members thereof are hereby empowered to administer oaths or affirmations to the appraisers appointed under this act, that they may order and conduct such examinations into the condition of the live stock of the State in relation to contagious diseases, including the milk supplies of cities, towns, boroughs and villages, as may seem necessary, and to take proper measures to protect such milk supplies from contamination.

Section 7. That all necessary expenses under the provisions of this act shall, after approval in writing by the Governor and the Secretary of Agriculture, be paid by the State Treasurer upon the warrant of the Auditor General in the manner now provided by law.

Section 8. That this act shall take effect June 1st, one thousand eight hundred and ninety-five, and all acts or parts of acts inconsistent herewith are hereby repealed.

Approved, May 21st, 1895.

AN ACT

TO PROTECT THE HEALTH OF THE DOMESTIC ANIMALS OF THE COMMONWEALTH OF PENNSYLVANIA.

Section 1. Be it enacted, etc., That the importation of dairy cows and neat cattle for breeding purposes into the Commonwealth of Pennsylvania is hereby prohibited, excepting when such cows and neat cattle are accompanied by a certificate from an inspector, whose competency and reliability are certified to by the authorities charged with the control of the diseases of domestic animals in the State from whence the cattle came, cer-

tifying that they have been examined and subjected to the tuberculin test and are free from disease.

Section 2. That in lieu of an inspection certificate as above required, the cattle may be detained at suitable stockyards nearest to the State line on the railroad over which they are shipped, and there examined at the expense of the owner, or cattle as above specified from points outside of the State may, under such restrictions as may be provided by the State Live Stock Sanitary Board, be shipped in quarantine to their destination in Pennsylvania, there to remain in quarantine until properly examined at the expense of the owner, and released by the State Live Stock Sanitary Board.

Section 3. The State Live Stock Sanitary Board is hereby authorized and empowered to prohibit the importation of domestic animals into the Commonwealth of Pennsylvania, whenever in their judgment such measures may be necessary for the proper protection of the health of the domestic animals of the Commonwealth, and to make and enforce rules and regulations governing such traffic as may from time to time be required.

Section 4. That any person, firm, or corporate body violating the provisions of this act, shall be deemed guilty of a misdemeanor, and upon conviction shall, in the proper court of the county in which such cattle are sold, offered for sale, delivered to a purchaser, or in which such cattle may be detained in transit, for each offense, forfeit and pay a fine of not less than fifty dollars or more than one hundred dollars, or be punished by imprisonment for not less than ten days, and not exceeding thirty days, either or both, at the discretion of the court. Such person, firm or corporate body shall be liable for the full amount of the damages that may result from the violation of this act.

Section 5. The State Live Stock Sanitary Board is hereby charged with the enforcement of this act, and is authorized to see that its provisions are obeyed, and to make, from time to time, such rules and regulations as may be necessary and proper for its enforcement.

Section 6. That this act shall go into effect January first, one thousand eight hundred and ninety-eight.

Approved, May 26, 1897.

AN ACT

TO FURTHER DEFINE THE DUTIES AND POWERS OF THE STATE
LIVE STOCK SANITARY BOARD; TO PREVENT THE SPREAD OF
DANGEROUS, CONTAGIOUS OR INFECTIOUS DISEASES AMONG
DOMESTIC ANIMALS; TO REQUIRE REPORTS TO BE MADE OF
THE EXISTENCE OF SUCH DISEASES; TO LIMIT APPRAISE-
MENTS AND PAYMENTS FOR ANIMALS THAT IT MAY BE
NECESSARY TO DESTROY TO PREVENT THE SPREAD OF DIS-
EASE; TO PROTECT MILK SUPPLIES FROM CONTAMINATION;
TO AUTHORIZE CO-OPERATION WITH LOCAL BOARDS OF
HEALTH; AND TO PRESCRIBE PENALTIES FOR THE VIOLATION
OF THE PROVISIONS HEREOF.

Section 1. Be it enacted, etc., That all practitioners of veterinary medicine in Pennsylvania shall, immediately upon gaining information thereof, report to the secretary of the State Live Stock Sanitary Board the occurrence among animals of any one of the following diseases: glanders, anthrax (or anthracord diseases), blackleg, or blackquarter; contagious pleuro-pneumonia, or lung plague of cattle; rinderpest, or cattle plague; haemorrhagic septicaemia, foot and mouth disease, or aphthous fever of cattle; southern cattle fever, or Texas fever; sheep scab; mange of cattle or horses; hog cholera, or swine plague; rabies, or hydrophobia; maladie de coit, or eldurine, of horses; advanced or generalized tuberculosis or tuberculosis of the udder; or any other disease adjudged and proclaimed by the State Live Stock Sanitary Board to be of a dangerously infectious or virulent character.

The report to the Secretary of the State Live Stock Sanitary Board shall be made in writing, and shall include a description of the diseased animal or animals, the name and address of the owner or person in charge of the animal, if known, and a statement as to the location of the animal.

Section 2. No person who has knowledge of the existence of any one of the diseases enumerated in Section one of this act, or of an animal afflicted with any one of the said diseases, or with any other disease adjudged and proclaimed by the State Live Stock Sanitary Board to be of a dangerously infectious or virulent character, shall conceal or attempt to conceal such diseased animal, or knowledge of such diseased animal, from a member or agent of the State Live Stock Sanitary Board.

Section 3. It shall be unlawful to move upon or across any public highway; or to exposure to contact with other animals of the same species, or in any public place, any animal known to be afflicted with any one of the diseases enumerated in section one of this act, or with any other disease adjudged and proclaimed by the State Live Stock Sanitary Board to be of a dangerously infectious or virulent character, except upon specific permission so to do, from a member or agent of the State Live Stock Sanitary Board.

Section 4. No person shall inject into, or otherwise administer to, any domestic animal that is producing, or that is intended to, or that may, produce human food, or that is to be used as a food for man, any virus or other substance containing pathogenic or disease-producing germs, of a kind that is virulent for man or for animals, excepting upon specific permission so to do, from a member or authorized agent of the State Live Stock Sanitary Board; Provided, however, That nothing in this section shall prevent the use of calves or other cattle for the production of vaccine, against smallpox.

Section 5. The maximum limit of appraisement that shall hereafter be allowed for animals that it shall be deemed to be necessary to destroy, to prevent the further spread of a dangerous, contagious or infectious disease, shall be as follows: For a horse or mule, forty dollars; for a bovine animal, of pure breed or registered stock, fifty dollars; for a bovine animal, of grade or common stock, twenty-five dollars; for a sheep or pig, ten dollars; Provided, however, That the amount of appraisement shall not, in any case, exceed three-fourths of the actual value of the animal at the time of appraisement: And provided further, That the total appraisements, in any one year, shall not exceed thirty-five thousand dollars.

Section 6. The State Live Stock Sanitary Board may co-operate with any local Board of Health, in accordance with rules and regulations, and upon such terms of co-operation as may mutually be agreed upon, for the purpose of ascertaining the condition of dairy herds and of milk supplies, and for the purpose of protecting such milk supplies from contamination; and the State Live Stock Sanitary Board may undertake, so far as possible, to bear one-half of the cost of such examinations as are made, beyond the limits of the jurisdiction of the said local Board

of Health, for the purpose of protecting from contamination milk produced to be sold within the field of jurisdiction of said local Board of Health.

Section 7. Any person violating any of the provisions of this act shall be deemed guilty of a misdemeanor, and, upon conviction before any alderman, magistrate, or justice of the peace, shall be sentenced to pay a fine of not less than ten dollars nor more than one hundred dollars for each and every offence, together with all the costs of the prosecution; and, in default of the payment of said fine and costs, shall stand committed until the same are paid. All penalties and costs recovered for the violation of any of the provisions of this act shall be paid to the Secretary of the State Live Stock Sanitary Board, or to an authorized agent of said Board, and by him be immediately covered into the State Treasury.

Section 8. This act shall take effect June first, one thousand nine hundred and five, and all acts or parts of acts inconsistent herewith are hereby repealed.

Approved, the 30th day of March A. D., 1905.

RULES FOR THE ENFORCEMENT OF THE ACT OF MAY 26, 1897.

Dairy cows and cattle for breeding purposes may be brought into Pennsylvania from other States only in accordance with one of the three following provisions:

1. The cattle may be examined and tested with tuberculin in the State whence they come by an inspector whose competency and reliability are certified to by the authorities charged with the control of the disease of animals in that State. Special blanks for reporting upon such examinations will be furnished by the State Live Stock Sanitary Board upon application. Cattle thus examined, found to be free from disease and brought into Pennsylvania, shall remain in the possession of the person or persons who own them when brought into Pennsylvania, until the

inspection reports have been approved by a member of the State Live Stock Sanitary Board or by an agent authorized to approve such reports. After such approval the cattle can be disposed of without restriction.

2. In place of an inspection outside of Pennsylvania as provided above, dairy cows and cattle for breeding purposes may be examined and tested with tuberculin at suitable stock-yards nearest to the State line on the railroad over which they are shipped. Such examinations are to be made by inspectors approved by this Board and at the expense of the owner of the cattle.

Cattle so inspected shall be marked with a suitable metal tag or shall be accurately described so that they can be reliably identified, and a report on the examination and test, with directions for identification, shall be submitted without delay to this Board.

3. Dairy cows and cattle for breeding purposes may be brought into Pennsylvania *without previous examination only under the following conditions.*

A. Notification to the State Live Stock Sanitary Board that it is proposed to bring certain dairy cows or cattle for breeding purposes into this State. Such notice must be accompanied by the number and a full and accurate description of the cattle, the names and addresses of the owner and consignee, the date upon which they are to be brought into the State, the route over which they are to be driven or shipped, and the destination.

When such complete report can not be made in advance a special permit must be applied for and held, and this must accompany the cattle.

B. Such cattle shall remain in strict quarantine during transit and after they have arrived at their destination until they have been examined and tested with tuberculin, and found to be free from evidence of infectious disease, by an inspector approved by this Board. Under this quarantine it is required that the cattle shall be kept apart from other cattle, that they shall remain in the possession of the person or persons who bring them into this State and that their milk shall not be sold or used without previous sterilization by boiling.

Dairy cows or cattle for breeding purposes brought into Pennsylvania under this provision that are found upon examina-

tion or test to be tuberculous, shall be strictly isolated and quarantined, their milk cannot be used for any purpose whatever without previous sterilization by boiling, and they shall not be moved to other premises excepting for slaughter, or, upon special permit, for return to the State and place whence they came. No compensation shall be allowed for such cattle.

As approved by the State Live Stock Sanitary Board at Harrisburg, Pa., November 5, 1897, and amended July 6, 1900.

AN ACT.

TO ENCOURAGE THE REPRESSION OF TUBERCULOSIS OF CATTLE, AND TO PROVIDE FOR THE DISPOSITION OF THE CARCASSES OF MEAT-PRODUCING ANIMALS THAT ARE INFESTED WITH TUBERCULOSIS TO A DEGREE THAT RENDERS THEIR FLESH UNFIT FOR USE AS FOOD.

Section 1. Be it enacted, etc., That whenever it comes to the knowledge of the Secretary of the State Live Stock Sanitary Board, or an agent of that Board who is authorized to inspect animals, that a meat-producing animal, killed for food, was found to be infected with tuberculosis, or with a disease resembling tuberculosis, it shall be the duty of the Secretary of the State Live Stock Sanitary Board, either himself or by deputy, or of an authorized agent of the State Live Stock Sanitary Board, to make an inspection of the said dead animal and its parts, for the purpose of ascertaining whether it is or was infected with tuberculosis, and, if infected, to what extent.

Section 2. If it shall be found that the animal, from which the carcass or meat came, was infected with tuberculosis, or other infectious disease, and to a degree that renders the flesh unfit for use as food, the said dead animal, carcass or meat, shall be condemned, and shall be disposed of by the use of any method that is approved by the State Live Stock Sanitary Board. For the guidance of inspectors of animals and meats, and of agents of the State Live Stock Sanitary Board, rules for the inspection of the carcasses of meat-producing animals may be promulgated by the State Live Stock Sanitary Board, or, in the absence of such

rules, the rules of the United States Bureau of Animal Industry, that cover the inspection of animals and carcasses for tuberculosis in abattoirs under federal inspection, shall be observed.

Section 3. When it is decided by a meat inspector, approved in respect to competency and reliability by the Secretary of the State Live Stock Sanitary Board, or by a member or agent of the State Live Stock Sanitary Board, and certified by him in writing on an official form that shall be provided for this purpose by the State Live Stock Sanitary Board, that the flesh of a meat-producing animal is unfit for use as food, on account of the fact that the animal from which it came was infected with tuberculosis to an injurious degree, the said meat or carcass may be appraised, by agreement between a member or agent of the State Live Stock Sanitary Board and the owner or his agent, or, if an agreement cannot be made, three appraisers shall be appointed, one by the owner or his agent, one by the State Live Stock Sanitary Board or its authorized agent, and the third by the two so appointed, who shall, under oath or affirmation, fairly and impartially appraise the meat or carcass, taking into consideration its apparent market value at the time of appraisement: Provided, however, That such appraised valuation shall not exceed five cents per pound, nor twenty-five dollars for the entire carcass.

Section 4. The amount of the agreed or appraised valuation shall be paid by the State Live Stock Sanitary Board, in the same manner as other expenses of said Board are paid, upon the presentation of satisfactory certificates of condemnation and valuation, and satisfactory evidence in writing that the condemned animal has been continuously in the State of Pennsylvania for not less than four months prior to slaughter, and that the carcass was disposed of in a way that had been approved by the State Live Stock Sanitary Board.

Approved, the 25th day of March, A.D. 1903.

SAML. W. PENNYPACKER.

STATEMENT OF THE OWNER.

..... 190..
..... P. O.
..... Co., Pa.

To the State Live Stock Sanitary Board, Harrisburg, Pa.

GENTLEMEN:—

The animal described on the following pages of this blank was my property at the time it was killed. I purchased the animal 190.., from of P. O., Co., Pa., for the sum of \$..... This animal was found when slaughtered for beef to be affected with tuberculosis to such a degree as to render the flesh unfit for use as food and it was condemned. I wish to obtain from the State the indemnity that is allowed in such cases, as provided by the Act of Assembly approved March 25th, 1903. I agree to the inspector's appraisement of cents per pound, or \$..... for the entire carcass.

I CERTIFY that the description of the animal, the statements regarding it and the declaration as to the disposition of the carcass and the viscera are true, to the best of my knowledge and belief.

(Name)

..... and subscribed
before me, this day
of 190..

SEAL

.....
Notary Public.

STATEMENT OF THE VETERINARIAN.

THIS WILL CERTIFY that on..... 190.., I examined on the premises of of P. O., Co., Pa., the following described animal, the property of

..... The said animal was killed for beef. The carcass and all of its parts including the organs, and the hide, were available for examination and were examined by me.

(Descriptions must be explicit, clear and complete for the purpose of identification.)

Description. Class....., Sex,
Breed, Approximate age
Actual weight of dressed carcass....., Condition.....,
Predominating color or colors....., Color marks..
.....
Other distinctive marks

.....
Shape and size of horns.....
Description of tag and of marks upon it

UPON POST-MORTEM EXAMINATION, I found the following conditions:

(The precise appearance, extent and distribution of all lesions found must be stated clearly and fully. Attention to this requirement will obviate delay and annoyance in the settlement of the claim.)

.....
.....
.....
.....

IN MY OPINION, the distribution and extent of the lesions of tuberculosis were such as to render the flesh unfit for use as food. Therefore, the carcass was condemned. The carcass and the viscera were disposed of in my presence as follows:.....

.....
.....
.....

(If the carcass and viscera were not disposed of in the presence of the examining veterinarian, state below the method employed to treat the carcass and viscera to prevent their being used for food and what guaranty there may be that they were properly disposed of.)

I am familiar with the price in this market of meat of the quality of that furnished by this carcass and it is my opinion that a fair allowance would be.....cents per pound or \$..... for the entire carcass.

(Name).....

(Address).....

FORM A.

REQUEST FOR INSPECTION AND TUBERCULIN TEST OF HERD, AT
THE EXPENSE OF THE STATE LIVE STOCK SANITARY BOARD.

190.

To the State Live Stock Sanitary Board, Harrisburg, Pennsylvania.

GENTLEMEN:—

I have reason to believe that some of my cattle are afflicted with tuberculosis, and I wish to have my entire herd inspected, and tested with tuberculin, if such test is deemed necessary by your representatives, and the diseased animals disposed of according to the rules and regulations of the State Live Stock Sanitary Board.

I understand that this inspection and test are to be made at the expense of the Commonwealth and, in consideration thereof, I agree to thereafter observe the precautions and measures and to employ the means recommended by your Board to prevent the reintroduction and redevelopment of tuberculosis in my herd.

I certify that to the best of my knowledge and belief, none of the dairy cows or cattle for breeding purposes in my herd have

been brought from another State into Pennsylvania since January 1st, 1898, without having been subjected to inspection and tuberculin test, as required by law.

Yours respectfully,

.....
(Address).....

.....County, Pa.

My herd includes the following animals: Cows,, heifers over one year old,, bulls over one year old,, steers,, calves one year old,, total The milk from this herd is used by for

The cattle are
(State breed and whether registered)

The following are my reasons for believing that some of my cattle are afflicted with tuberculosis:

.....
.....
.....
.....
.....

FORM B.

REQUEST FOR INSPECTION AT EXPENSE OF OWNER.

.....190..

To the State Live Stock Sanitary Board, Harrisburg, Pa.

GENTLEMEN:—

I wish to obtain from you a certificate showing the health of my herd and the sanitary condition of the surroundings, in accordance with your rule providing that such certificate can be granted in cases in which herds are examined under your super-

vision at the expense of the owners of the cattle. I desire this inspection to include a test with tuberculin.

My herd includes the following animals: Cows,
heifers over one year old, bulls over one year
old, steers, calves under one
year old, total, It is located on
the premises of in
Co., Pa.

The milk from this herd is used by.....
for.....

(Address)

CERTIFICATE OF INSPECTION AND TUBERCULIN TEST.

This is to certify, That the herd of Mr. of P. O. Co., Pa., consisting of the following animals:

was subjected to a physical examination and to the tuberculin test on the day of 190 by of acting for the State Live Stock Sanitary Board, and the said animals were found to be free from all evidence of tuberculosis or other transmissible disease, with exception:

and further, that the stables and yards in which these animals are kept were in good sanitary condition.

State Veterinarian.

FORM C.

REQUEST FOR ASSISTANCE IN DISPOSING OF TUBERCULAR CATTLE.

.....190..

To the State Live Stock Sanitary Board, Harrisburg, Pennsylvania.

GENTLEMEN:—

I have had my entire herd inspected and tested with tuberculin and have reason to believe that some of my cattle are affected with tuberculosis.

I have had this inspection and test made at my own expense and now wish to dispose of the diseased animals in accordance with the rules and regulations of the State Live Stock Sanitary Board and to avail myself of the assistance afforded by the Commonwealth in such cases. If such assistance is furnished, I agree to thereafter observe the precautions and measures and to employ the means recommended by your Board to prevent the reintroduction and redevelopment of tuberculosis in my herd.

My herd includes the following animals: Cows,
heifers over one year old....., bulls over one year old
....., steers, calves under one year old
.....; total..... The milk from this herd is
used by.....for

The cattle are
(State breed and whether registered.)

The inspection and test were made by.....of
.....on.....190..

I certify that, to the best of my knowledge and belief, none of the dairy cows or cattle for breeding purposes in my herd have been brought from another State into Pennsylvania since January 1st, 1898, without having been subjected to inspection and tuberculin test, as required by law.

Yours respectfully,

.....
(Address).....
.....County, Pa.

REFERENCES.

ADAMI. On the significance of bovine tuberculosis and its eradication and prevention in Canada. *Canadian Journal of Medicine and Surgery*, Dec. 1899.

ARLOING. L'inoculabilité de la tuberculose humaine et les idées de M. Robert Koch sur cette tuberculose et la tuberculose animale. *Bull. Acad. de med., Paris*, v. 65, 3 sér., v. 46, No. 43, 24 déc., pp. 897-911, 30 déc., 1901.

BANG. The struggle with tuberculosis in Denmark. *The Veterinarian*, Vol. LVIII (1895), p. 688.

BANG. Tuberculosis of cattle. *Penn. Dept. of Agric., Appendix Bull.* 75, 1901.

BOLLINGER. Ueber die Identität der Perlsucht der Rinder mit der menschlichen Tuberculose. *München. med. Wochenschr.*, 41. Jhrg., No. 5, 30. Jan., pp. 85-86, 1894.

CURTICE. The detection of tuberculosis in cattle. *Annual Report, Bur. of Animal Industry, U. S. Dept. of Agric.* 1895-6.

DELEPINE. A discussion of the relationship of human and bovine tuberculosis. *Brit. Med. Journ., London*, No. 2178, Sept. 27, 1902, p. 947.

EDWARDS. The Bang system for the eradication of tuberculosis in cattle. *Proceedings of the Amer. Vet. Med. Asso.*, 1903, p. 124.

HARDING, SMITH and MOORE. The Bang method of controlling tuberculosis, with an illustration of its application. *Bull.* 277, *N. Y. Agric. Exp. Sta. Geneva, N. Y.*, 1906.

HUELS. Zur Frage der Uebertragung der Rindertuberculose auf den Menschen. *München. med. Wochenschr.*, 49. Jhrg., No. 24, 17. Juni 1902, p. 1003.

KOCH. Die Aetiologie der Tuberculose. *Berlin. klin. Wochenschr.*, 19. Jhrg., No. 15, 10. Apr., 1882, p. 221.

KOCH. The etiology of tuberculosis. *Mitt. aus dem Kaiserl. Gesundheitsamte* Vol. II, 1884. Translated in Vol. CXV, *New Sydenham Society*.

KOCH. Address on the combating of tuberculosis in the light of experience gained in the combating of other infectious diseases. *Trans. Brit. Cong. on Tuberculosis for Prevention of Consumption, London*, July 22-26, 1901, Vol. I (1902), p. 23.

LARTIGAU. A study of the variation in virulence of the bacillus tuberculosis in man. *Journ. of Med. Research* Boston, No. 62, Vol. VI, No. 1, July, 1901, p. 156.

LASSAR. Ueber Impftuberkulose. *Deutsche med. Wochenschr.*, Leipzig, 28. Jhrg., No. 40, 2. Oct., 1902, p. 716.

MARTIN. Influence upon animals of food of tuberculous origin: Influence upon man. *Report of royal commission appointed to inquire into the effect of food derived from tuberculous animals on human health.* London, Pt. I, 1895, p. 9.

MOHLER. Infectiveness of milk of cows which have reacted to the tuberculin test. *Bull. 44, Bur. of Animal Industry, U. S. Dept. of Agric.* 1903.

MOHLER and WASHBURN. A comparative study of tubercle bacilli from varied sources. *Bull. 96 Bur. of Animal Industry, U. S. Dept. of Agric.*, 1907.

MOORE. A report on bovine tuberculosis. *Annual Report, N. Y. Dept. of Agric.*, 1903.

MOORE. A report on bovine tuberculosis. *Proceedings of New York State Dairymen's Asso.*, 1906. *Published in Holstein-Friesian World*, June, 1907.

NICOLAS and DESCOS. Passage des bacilles tuberculeux après ingestion dans les chylifères et le canal thoracique. *Journ. de physiol. et de path. gén.*, Paris, Vol. IV, No. 5, 15 sept., 1902, p. 910.

NOCARD. Expériences sur la tuberculose. *Revue vet., Toulouse*, An. 27, (59), No. 1, 1er jan., 1902, p. 49.

PEARSON. Immunization of animals against tuberculosis. *Second annual report of the Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis, Philadelphia*, 1905.

PEARSON and RAVENEL. Tuberculosis of cattle and the Pennsylvania plan for its repression. *Bull. 75, Penn. Dept. of Agric.* 1901.

RAVENEL. Three cases of tuberculosis of the skin due to inoculation with bovine tubercle bacillus. *Phila. Med. Journ.*, July 21, 1900.

RAVANEL. The dissemination of tubercle bacilli by cows in coughing a possible source of contagion. *Univ. of Penn. Med. Magazine*, Nov., 1900.

RAVANEL. The comparative virulence of the tubercle bacillus from human and bovine sources. *Univ. of Penn. Med. Bull.*, Sept., 1901.

RAVANEL. The intercommunicability of human and bovine tuberculosis. *Medicine, Detroit*, Vol. VIII, No. 7, July, 1902, p. 529; No. 8, Aug., p. 617.

RAVANEL. Discussion on tubercle bacilli in cow's milk as a possible source of tuberculous disease in man. *Trans-Brit. Cong. on Tuberculosis for Prevention of Consumption, London*, July 22-26, 1901, Vol. I, 1902, p. 91.

REGNER. The suppression of tuberculosis among domesticated animals. *Eighth International Veterinary Congress, Budapest*, Sept., 1905.

REPP. Transmission of tuberculosis through meat and milk. *American Medicine*, Oct. 6, Nov. 2, 1901.

RUSSELL. The history of a tuberculous herd of cows. *Wis. Agric. Exp. Sta.*, Bull. 78, 1899.

RUSSELL. Two ways of treating tuberculosis in herds. *Wis. Agric. Exp. Sta.*, Bull. 126, June, 1905.

SALMON. Report of committee on animal diseases and animal food. *Reports and papers, Amer. Pub. Health Asso. Buffalo*, Sept. 16-20, 1901, Vol. 27, 1902, p. 45.

SALMON. Bovine and human tuberculosis. *Proceedings Amer. Vet. Med. Asso.*, 1903, p. 436.

SALMON. Reports on bovine tuberculosis and public health. *Bur. of Animal Industry, U. S. Dept. of Agric.*, Bull. 53, 1904.

SALMON. Tuberculosis of the food-producing animals. *Bur. of Animal Industry, U. S. Dept. of Agric.*, Bull. 38, 1906.

DE SCHWEINITZ and DORSET. Experiments in the virulence of tuberculosis bacilli. *Bur. of Animal Industry, U. S. Dept. of Agric.*, Bull. 52, 1904.

SMITH. Investigations concerning bovine tuberculosis with special reference to diagnosis and prevention. (Pathological part.) *Bur. of Animal Industry U. S. Dept. of Agric.*, Bull. 7, 1894.

SMITH. A comparative study of bovine tubercle bacilli and of human bacilli from sputum. *Jour. Exp. Med.*, Vol. III (1898), p. 506.

SMITH. The relation between bovine and human tuberculosis. *Med. News, N. Y.*, Vol. LXXX, No. 8, Feb. 22, 1902, p. 343.

SMITH. The channels of infection in tuberculosis, together with some remarks on the outlook concerning a specific therapy. *Trans. Mass. Med. Society*, 1907.

SPRONCK AND HOEFNAGEL. Transmission à l'homme, par inoculation accidentelle, de la tuberculose bovine, et réinoculation expérimentale au veau. *La Semaine med.*, Paris, An. 22, No. 42, 15 Oct., 1902, p. 341.

STENSTROEM. Die Tuberkulose des Menschen und der Rinder. *Zeitschr. f. Thiermed.*, Jena, Vol. VI, No. 4, 1902, p. 289.

THOMASSEN. The receptivity of bovine animals for the bacillus of human tuberculosis. *Trans. Brit. Cong. on Tuberculosis for Prevention of Consumption, London*, July 22-26, 1901, Vol. IV (1902), p. 21.

VON BEHRING. Tuberculose. *Beitrage sur experimentellen Therapie*, Vol. XVIII (1902), p. 90.

